

ST FORMAT

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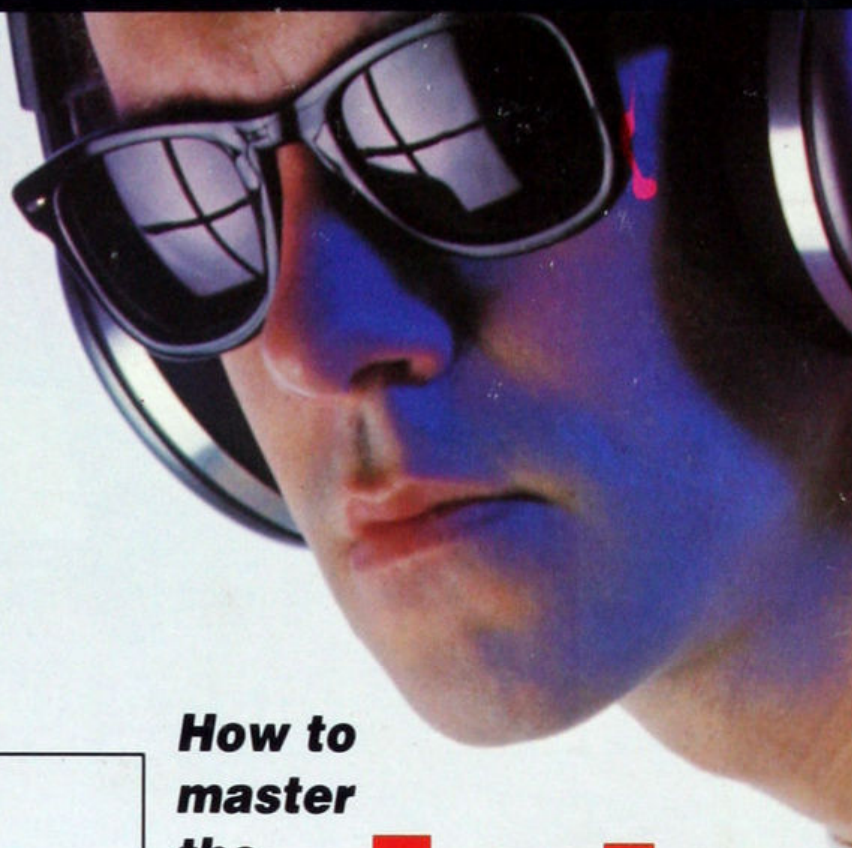
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Guide begins on page 16

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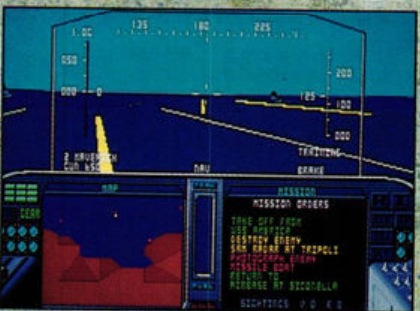
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AMIGA.**

MICROPROSE



IBM Screen shots shown. Actual screens may vary.



cover tape/disk

Music Editor Jon Bates explains how he created the Cover Tape sequence – page 16. And see Cover Disk info for a complete MIDI sequencer and MIDI data sender – page 25

FORMAT goes music mad

Ladies and gentlemen, allow us to introduce to you the very wonderful world of MIDI, ST music and all that jazz



ST FORMAT

ABC July – December 1989 43,007
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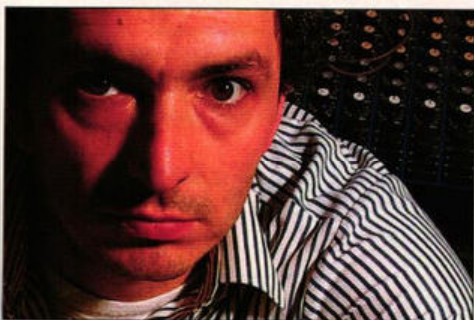
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WIN £1,000's worth of fabulous Roland ST music kit — 76



Big George has this theory about his ST... — 78



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While we welcome letters for use in Desktop and on our letters pages, we regret we cannot reply to individual enquiries, either by letter or by phone. We're too busy making *ST FORMAT* even better!

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future
PUBLISHING

contents

ST FORMAT ■ ISSUE 12 ■ JULY 1990

News —————	7	COMPETITION —————	90
What's going on in the ST universe		Win a <i>free</i> course with the masters of ST/MIDI music!	
News from abroad —————	10	Public domain —————	95
Releases and previews from Europe		Where to go for the best value software in the world	
GAME PREVIEWS —————	12	Desktop —————	99
See tomorrow's games today		Page after page jam-packed with tips and solutions!	
MUSIC SPECIAL: —————	16	REVIEW: astrosoft —————	109
Jon Bates goes into creative overdrive		Coming soon: the future. It's on your ST now!	
COVER DISK PLUS —————	25	REVIEW: Mission Control —	116
It's the ones we toss out that makes ours the best out		GFA's latest £29.95 show-stopper	
GAMES: screenplay —————	33	SERIES: program in C —	121
<i>Sim City</i> EXCLUSIVE! 34 <i>Dragon's Lair</i> EXCLUSIVE! 41 <i>F-19 Stealth-Fighter</i> 42 <i>Projectyle</i> 44 <i>Dynasty Wars</i> 47 <i>Rotox</i> 49 <i>Cyberball</i> 50 <i>Imperium</i> EXCLUSIVE! 52 <i>Final Command</i> 55 <i>Ghosts 'n Goblins</i> 56 <i>Starblade</i> 58 <i>Dan Dare III</i> 60 <i>Photon Storm</i> 62 <i>Bubble+</i> 62 <i>Wipe Out</i> 67 <i>Chronoquest II</i> 69 <i>Dungeons, Amethysts and Everything</i> 70		Master this most powerful of programming languages	
Adventures —————	69	REVIEW: Hyperchart —	125
Reviews and specially scrumptious hints 'n' tips section		Put colour and style into your presentations	
Gamebusters —————	72	REVIEW: Harlekin —	127
Totally terrific tips for 13 tremendously top ST titles		First review of this unbelievably versatile package	
COMPETITION —————	76	REPORT: Chameleon —	131
£1,000's worth of ST Roland music kit <i>must</i> be won!		How to bring your old MIDI synth back to life	
Mad about music —————	78	SUBSCRIPTIONS —	133
"Big" George gets his numskulls out for the lads		Free software and free delivery — do it <i>now</i> !	
Graphics —————	85	Education —	135
Brilliant beginner's guide to ST graphics		Turn your ST into an incredibly powerful teacher	
		Letters —	141
		Straight talking on all manner of ST-related topics	
		SPECIAL OFFERS —	144
		Psst! Want a good deal more for a good deal less?	
		The best mail order offers in the country	
		The back page —	146
		Our latest guesstimate of next month's contents	

cover disk 25

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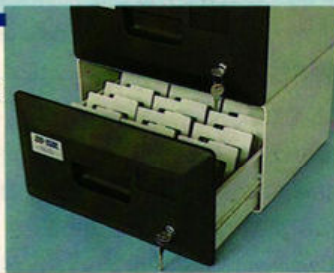
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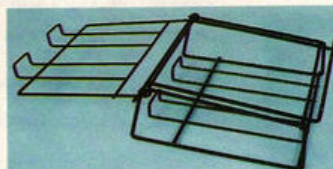
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Calamus £100 price cut in bitter DTP war

'Grey import' in a storm

A bizarre slanging match has broken out over Calamus, the leading desktop publishing program for the ST (reviewed in STF6). Wild and bitter accusations of grey importing, price fixing and interference in private affairs have been flying back and forth between competitors.

Signa boss Mike Dale, the original UK supplier of Calamus, alleges he has proof that Network News Services (NNS) – who sell the program for £343, as opposed to Signa's £458 – are dissuading customers from buying Calamus,

NNS are importing Calamus direct from North America and supplying it with six ROM chips, a method of supply heavily criticised by Dale: "There's a hardware modification involved. You've got to take the lid off your machine and insert a version of TOS the machine was not equipped with. It seems odd to me."

Signa's version of Calamus doesn't need ROMs because German developers DMC (featured in STF11), configure the software for each country so it looks for the keyboard that belongs to that particular country.

For his part, NNS boss Frank Shean denies Dale's accusations and dismisses Dale's objections as an attempt to protect his market. He promises customers will soon be able to buy the new Calamus version 1.906, which apparently doesn't need the TOS chips to run, at NNS's lower price.

"We are getting sick and tired," Shean complains, "of Mike Dale poking his nose into our business. All we are trying to do is give ST users the same facilities in this country as are available to ST users everywhere else in the world." Anyone could order Calamus individually, Shean says, direct from the United States.

Shean claims that the real reason behind Mike Dale crying foul is Shean's intention to seek a ruling from the European Commission that Calamus is being given unfair

protection from competition. Article 85 of the Treaty of Rome prohibits practices which "directly or indirectly fix purchase or selling prices or any other trading conditions..." or "apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage..."

The original version of Calamus is available from Signa (☎ 0252 341600) for £458. The so-called "grey import" is available from NNS (☎ 0375 859103) for £343.

Mega music machine

New from Sound Technology is the Digidesign Sound Tools AT, a stereo direct-to-disk recording and playback system with amazing digital signal processing functions.

It's ideal for music editing, mastering, post-production and any application which requires high-speed, flexible editing. The system consists of three parts:

- A sound designer with multi-channel waveform editing, cut, copy and paste facilities, real time DSP functions, mixing, merging and delay;

- A sound accelerator with a Motorola 56001-based DSP expansion card for the Mega 4 producing two channels of phase synchronous playback, and

- AD IN, an analogue to digital convertor with 16-bit quantization capable of input levels from -10dB to +4dB (+20dB max) on signals from 20Hz to 20 KHz.

The package sells for £1,995 on its own, but can be further enhanced with DAT I/O, a bi-directional digital interface, featuring both S/PDIF and AES/EBU formats, which costs another £999. Sound Technology ☎ 0462 480000.



■ The Calamus conflict: headed for the European Commission?

and persuading them to buy their own product, Proxima (£155). "They're making a lot of less than complimentary remarks about Calamus and Signa," Dale claims, "and about the way Calamus is marketed and handled."

Network News Services are selling what Mike Dale calls a "grey import," the industry name for a program that comes through dealers abroad. Is it illegal? "That's up to lawyers to decide," said Dale, "I really can't comment on that."

Evolution revolution

A new type of synthesizer expander module, designed to bridge the gap between analogue and digital sounds, hits the streets this month. Named the Evolution Synthesis EVS-1, it offers digital tuning stability and algorithmic multi-synthesis that enables sounds to be created in an intuitive way.

Frequency Modulation, Phase Modulation, Wave Addition, Ring Modulation and Formant are all synthesis methods which can be used on the EVS-1. The system has full dynamic aftertouch and multiple LFO modulation destinations, as well as eight sound multi-timbre and 16 note polyphony. Each EVS-1 is supplied with an ST based editor/librarian package, complete with a large selection of library patches, giving access to a potentially limitless range of editable sounds. UK distributors Sound Technology (☎ 0462 480000) supply the entire EVS-1 system for £299.



■ The new EVS-1 multi-timbral synth is supplied with an extensive sound library

£25 FREE SOFTWARE – Turn to page 133 now!



■ **Projectyle-fiend and
FORMAT-friend Clare Hodgson
crushes the rest of the press**

The lady is a champ

Proving the long-held belief that ST FORMAT's games reviewers are the best in the business, the Electronic Arts Projectyle Press Challenge was the scene of a resounding victory for Clare Hodgson, constant companion of Maff Evans of ST FORMAT.

Clare admitted that she had to be cajoled into playing in the first place. "I feel really guilty, I've showed everyone else up!" she said. Opposition teams were not pleased.

Fun line?

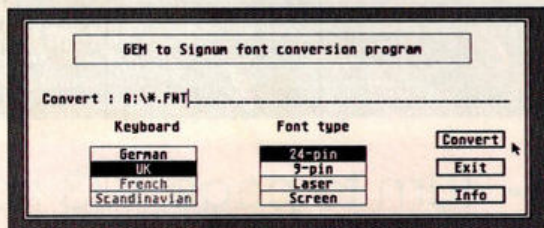
Mel Croucher's Computer Fun Line (sic) has joined the ever-increasing list of expensive 0898 numbers (299399, to be precise). The first week's introduction featured a request for Steve Carey, editor of this fine organ, to "**** off." This is thought not to be unconnected with Steve's, er, *robust* opinion of the *Castle Master* manual (STF 10), the author of which was none other than Crouch the Grouch. A touch of magisterial pique, perhaps? Clik... Brrrrrrrr.

Font to font programs

Sig2Gem and Gem2Sig are conversion programs from the ST Club which enable you to turn Signum fonts into GEM fonts and vice versa. They cost £2.50 together and give you the ability to edit and create Signum fonts using Fonkit Plus or any other GEM font editor which has more tools and options than the editor supplied with Signum.

Fonkit Plus 3 (£19.95, from the ST Club) has just been released and can use Gem2Sig and Sig2Gem as external conversion modules without the need to load each program separately. The ST Club ☎ 0602 410241.

■ **Turn
Signum
fonts into
a style
you can
edit in
Fonkit
Plus**



Soviets cash in their chips

Atari are planning to trade STs for Soviet 256K dynamic random access chips (DRAM). The DRAM chips are made at a Soviet-owned semiconductor plant in Zelenograd, and their barter for STs has been arranged by Seattle-based trade consultants Global Development, which has set up meetings between the Soviets and Atari. Global's president Mark Muchnick believes the Soviets are willing to trade all their excess production, which is thought to be as high as 2.5 million chips a month.

"This came from nowhere and it's moving very fast," Gregory Pratt, Atari's chief financial officer, is reported as saying. "There's talk of the 520ST being involved, but we weren't planning on releasing the news just yet."

Soviet factory workers are expected to receive 25% of any profit that accrues – which, given the desperate shortage of high technology in the Soviet Union, could amount to a very good deal indeed. Muchnick reckons the Soviets are "just dying to get their hands on computers. For the first time in their lives these guys could get something more than a paycheck."

Steinberg releases

■ Steinberg's new CuBase 2.0 ST now includes Score Printing and Phrase Synthesis

■ Avalon, the universal ST sampling program has been upgraded to version 2.0, providing ultra-fast transmission of samples via SCSI. A new digital to analogue board, the Avalon DA Board, is now available enabling high quality monitoring of samples.

■ Midex is a new multi-MIDI port, time-code synchronizer and key expander for the ST.

■ And Yamaha's SY77 synthesiser has been added to the machines covered by the Syn্থworks editing and librarian program. Evenlode Soundworks ☎ 0993 898484.

Hot video

Signa Publishing have unveiled an amazing desktop video package. The result of two years of development, Chili offers 256,000 colours on-screen (the new STE offers 16), from a palette of 16,000,000, real-time colour frame grabbing, borderless genlocking and a sophisticated paint program running in ultra high resolution colour. It features an astonishing range of effects such as merging, masking, block manipulation, distortion and title generation.

Chili runs at broadcast resolution, making it a real option for television companies. Connected to a video camera it captures and manipulates images in real-time. Colour pictures can be scanned in directly with a colour scanner attached. Chili doesn't come cheap, but at £1,700 it's certainly cheaper than a Quantel Paintbox, the current professional's choice. Signa ☎ 0252 341600.



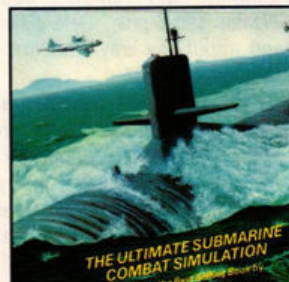
■ **The Hunt for Red October – a computer game on the way**

Grandslam cash in on Soviets

After the success of *The Hunt For Red October*, featuring Sean Connery in one of his best film roles, it was inevitable that a computer game would follow and Grandslam have successfully secured the licence.

The film followed the efforts of a Soviet submarine commander to cross the Atlantic and defect to the West. It's a tricky licence to convert, but Grandslam are hoping that their game, scheduled for release at the end of summer, has got it right.

This version of *The Hunt for Red October* isn't the first. Grandslam released an interpretation of Tom Clancey's book back in 1987 when Grandslam were called Argus Press Publications. They have now re-released that version for £14.49. When you see them both on the shelves, just make sure you don't buy the wrong one!



■ **Grandslam are also
re-releasing the book
conversion, originally on
the shelves in 1987**

Hands-on music

The technology revolution has affected music at all levels, bringing a multitude of new techniques, styles and sounds which were inconceivable ten years ago.

Less fortunately, it has brought untold chaos for the aspiring musician. Not only does the budding muso have to contend with the usual problems of creating an individual musical style, there is also the major headache of learning how to use many pieces of sophisticated hardware effectively. Manuals are often written in a strange language (Japlish?), and usually only tell the user what each button does, rather than the best way to use them.

Leeds-based musicians, Anita Hurst and Simon Sanders, who have both written pieces for Yorkshire Television and BBC Leeds, have set up Micromagic Ltd to offer training in the use of music technology at all levels. They provide courses both for the beginner who wants to know how to use their portastudio and for the professional studio



■ See the competition on page 90 for a chance to win free places on Micromagic's courses!

engineer who wants to understand the principles of digital recording.

The courses currently on offer start with the weekend course, a two day event aimed at the musician who wants an introduction to the subject. There are two weekend courses at £89.70 each: Midi, Synthesis & Sequencing; and Recording Techniques.

The next level is the five day course at £224.25 which covers the same basic areas as the weekend courses, but in far more detail and with a strong emphasis on creativity.

All the courses make extensive use of practical demonstrations, and longer courses have plenty of hands-on experience to reinforce the theoretical content. You can

expect to see Fostex, TEAC and Revox tape machines, a Studioline mixing desk, Beyer and Calrec microphones, plenty of STs with C-Lab Notator and Steinberg Pro24 up and running, as well as an impressive range of Yamaha, Oberheim and Roland synths. Micromagic Ltd ☎ 0924 410880.

Pixel power

Megapaint II (£99.95) is the first ST graphics package that works at the same resolution as the printer. Using a screen pixel to printer point ratio of 1:1 it offers unrivalled image quality. Other features include block handling, user-definable fonts, scanner drivers, and a text editor. Reputed to be able to print a full A4 page in under three seconds, *Megapaint II* is incredibly fast and makes an excellent sidekick to any major DTP program. Silica Systems ☎ 081 309 1111.



■ *Megapaint II*: speed and quality



■ (Above) *Big Run*, a Jaleco coin-op about to be converted by the Sales Curve. The team have been recruiting programmers and graphic artists as they prepare to launch their Storm label. The sub-contracted programmers of *Silkworm*, *Gemini Wing* and *Shinobi* are branching out on their own, with plans for four releases and a number of Jaleco conversions. The first is *Saint Dragon* (pre-viewed on page 12), followed in October by an "awesome" shoot-'em-up, *SWIV*. *Rod-Land* and *Big Run* are due for early 1991.

WIN £500 CASH!

Our recent questionnaire, the results of which we published last month, revealed one thing above all others. You want more information, more tips, more help, more cheats for games, more ways to get more out of your machines and software. So that's what we're going to give you. From next month and forever you'll see a much expanded *Desktop*, an even bigger *Gamebusters*, more adventure tips, solutions, maps and infinite lives cheats, and tips sections for both music and graphics.

But we need your help. So get that information flowing. Send any tips you have to: **ST FORMAT** tips, 30 Monmouth St, Bath BA1 2AP. As an added incentive not only will we be giving away £250 in cash every month as prizes for your tips, maps and games cheats, but every tip we receive from now on go into a draw, the prize for which is £500 in cash! Now turn to page 146 for more details.



Snippets

■ Lakmeyer are introducing a new EPROM programmer (£275.25) to handle the latest 32-pin 4-Megabit chips. The unit plugs directly into the ST's cartridge port and two software packages provide copying, editing and relocation facilities. It's GEM-based and operates in medium and high resolution. Lakmeyer ☎ 081 316 1779.

■ A new Bulletin Board, The Spinning Disk, has just gone on-line. Sysop John Nice provides 24 hour support for newcomers to the ST and to comms. The board handles V21, V22, V22bis and V23 communications modes and is part of the FoReM BBS network. ☎ 0375 851046.

■ CAD package *GFA DRAFT plus 3.0* (£149.95) has been released for the ST. New features include: on-screen icons; splines of up to 132 points; user-definable characters; exportable GEM .IMG files; and a new Macro Command language enabling external programs to draw complex shapes. *DRAFT 2.0* owners can upgrade for £99.95, and *DRAFT plus 1.5* owners for £49.95. GFA Data Media ☎ 0734 794941.

■ bbdp Electronics, known for their UK built DMA Host Board, have been appointed official suppliers of Supra ST hard drives. Ranging from 20MB (£375) to 84MB (£632), the drives are supplied formatted and partitioned, complete with SupraDrive software. bbdp Electronics ☎ 0383 881768.

■ From TEC-NOL comes The Strive (£89.95), a double-sided 3.5-inch disk drive which has its own internal power supply. TEC-NOL ☎ 0532 676951.

■ GFA Data Media are releasing *GFA G-Shell* (£19.95) to enhance *GFA Basic 3.0 Compiler* (£29.95). *G-Shell* replaces the menu system of the compiler with an intelligent "Make" facility enabling users to program the compiler functions directly. GFA Data Media ☎ 0734 794941.

■ Contrary to the information in *STF10*, the French art package *ZZ Rough* is not yet available in this country as a stand-alone art package. It is only supplied as part of the *VIDI-ST* digitizer (£99.95) from Rombo Ltd ☎ 0506 414631.



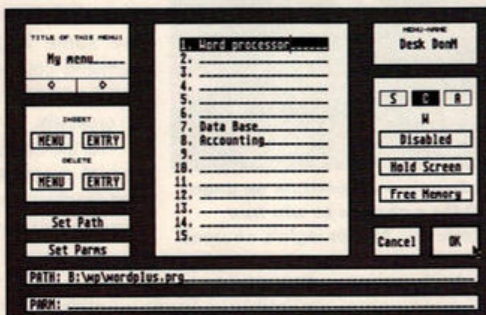
Staying one step ahead of the game, Don Maple previews programs released in Germany this month

Pull-down Flesh

Flesh, from iSi Software, is a graphic shell accompanied by a disk utility called *Fleshtop*. Instead of constantly opening windows, *Flesh* enables you to run programs from pull-down menus or by a simple keystroke. You can specify data files to be loaded automatically and set their pathnames, and personalised menus can be saved and recalled as needed.

In addition to regular disk maintenance tools, *Fleshtop* searches for files specified in its system box, offers file move facilities and a filter to list selected files. It can be run as an accessory and is extremely useful to hard disk owners.

Flesh is available in English for DM 79 (£29) from iSi Software ☎ 01049 6142 42036.



■ Fed up with opening windows? *Flesh* enables you to run programs from pull-down menus or simple keystrokes

Make my day

Date-Access, by Jensen Software is a yearly planner that sits quietly as an accessory until you need it. The diary lets you enter up to ten appointments per day, can be used as a calendar, and automatically carries birthdays over to the next year. It's supported by an address manager which searches and displays addresses according to various criteria.

The current version costs DM 54 (£20), though an update is planned later this year. Jensen Software ☎ 01049 461 26751.

Snippets

■ Atari Germany have released their 1989 financial figures. Income is up by 25% to 277 million DM (£110 million). Sales of Mega STs doubled and the number of peripherals tripled, mainly due to the high sales of hard disks. The new TT and Stacey are projected to be big money spinners this year and Atari Germany have confidently invested 19 million DM (£7 million) in new premises.

■ Tired of constantly switching monitors? iks can fit your mono monitor with a hardware gadget that enables you to display all three resolutions. The *SM 124 Multisync* comes in three flavours: a kit comprising an empty board and all parts for 129 DM (£48); the complete board with parts soldered on for 149 DM (£55); or you can send in the monitor and they fix it for 249 DM (£92). iks ☎ 01049-7202-6793.

■ *Megapaint II Professional* (see the news on page 9 and "Continental Drift" in *STF 8*) is now able to use vector graphics in Calamus format, so *Megapaint* illustrations can be directly merged into *Calamus* documents. Every *Megapaint* buyer gets a free Signum font converter. Tommy Software ☎ 01049-30-6214063.

■ *STeve*, the integrated event editor from Yugoslavia (see "Continental Drift" *STF 7*), has been expanded to include optical character recognition. Version 3.294 automatically converts scanned documents into text and costs DM 1398 (£525) ☎ 01038 61 226329.

Easy rider over tough terrain

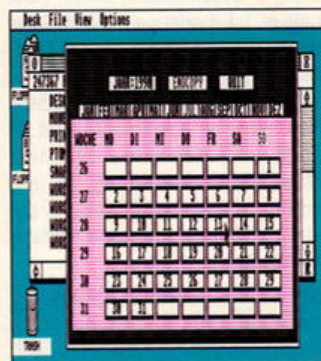
Learning by example is one of the best ways to learn, but source listings are notoriously hard to come by. This is where *Easy Rider*, a combined assembler/disassembler package, can help. The macro



■ *Easy Rider* offers smooth access to the tricky terrain of source code

assembler, with its own linker, is a comprehensive program which quickly creates executable files from your source. The interesting part, however, is the 4-pass disassembler which does the reverse (creates source out of any program file). If you see an interesting program, this disassembler automatically produces a partially commented source code for you to study.

The assembler costs DM 99 (£37) and the re-assembler DM 149 (£56) or you can have both for DM 229 (£86). Contact Andreas Borchard, Wiesenbachstr. 2a, 4500 Osnabrück, F.R. Germany.



■ *Date-Access* is a flexible yearly planner essential for the busy and the forgetful

EUROPEAN PD/SHAREWARE CORNER

In addition to excellent professional software, Germany also has incredible PD/shareware programs. Each month we focus on one such program or author.

Dirk Woitha has written mono and colour PD versions of *Drachen* (Dragons) based on a 2,500 year old Chinese game. 144 stones are arranged in the form of a Chinese dragon and the object is to remove them all by matching two at a time. Other programs written by Dirk include an accessory font editor, a new file selector and *Little Net* - a program to connect two STs using the MIDI ports. For a disk containing all of the above send just £5 and two international reply coupons to: Dirk Woitha, Hebbelstr. 11, 5630 Remscheid 11, F.R. Germany.

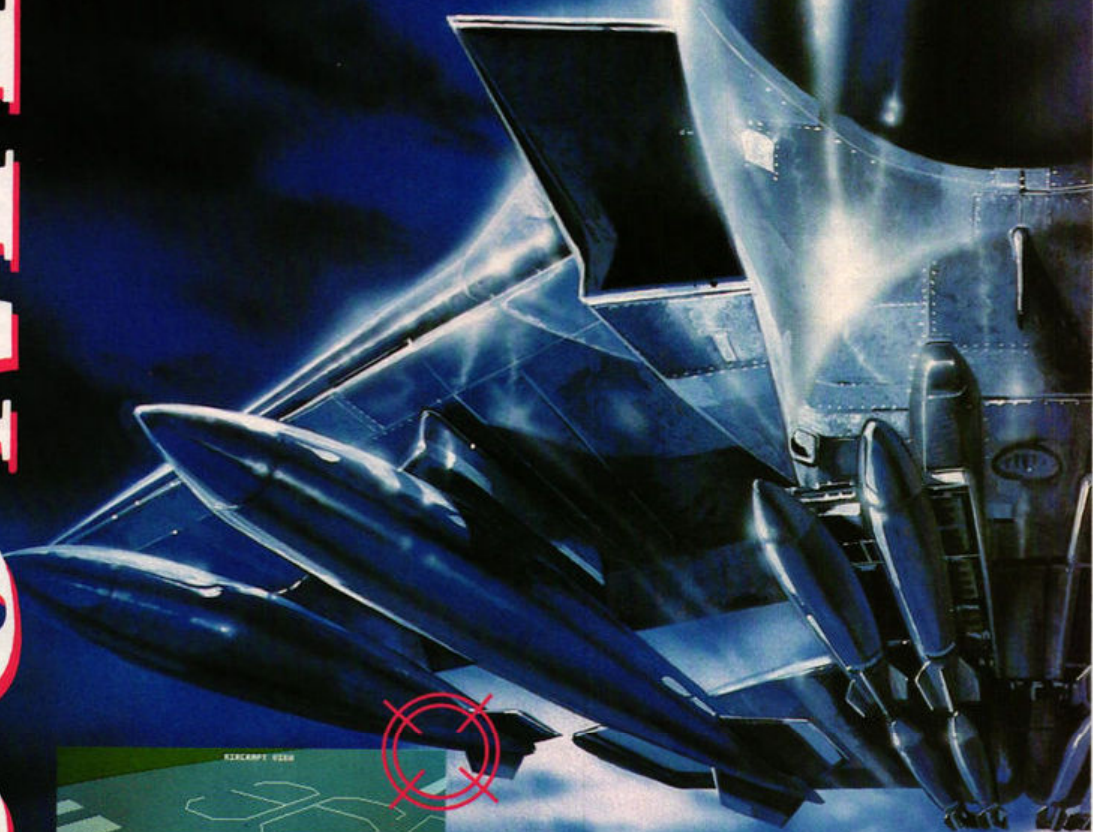


■ Dirk Woitha's *Drachen* is based on an intriguing 2,500 year old Chinese game

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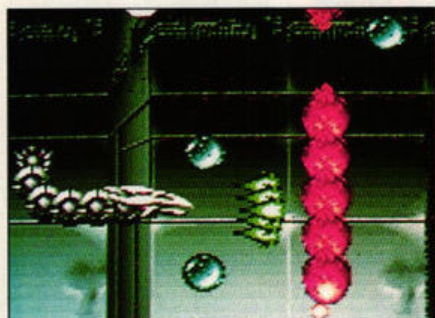
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previews



■ SAINT DRAGON (Storm/Sales Curve)

Sales Curve are beefing up their operation, taking on new programmers and obtaining the rights to a variety of coin-op conversions. The first game released on their new Storm label is *Saint Dragon*, a Jaleco coin-op game. It follows the well-trodden path of their last shoot-'em-up *Gemini Wing*. With all manner of weapons, six levels of horizontally-scrolling action and an end-of-level bad guy, it's a hackneyed but popular scenario.



■ PROPHECY (Electronic Zoo)

Prophecy's programming team are claiming it's bigger, better, and more fun to play than *Rainbow Islands*. We've seen demos – which aren't exactly convincing – but next month we're going to play the game to death and tell you whether the programmers had the foresight to make big improvements.



■ F-29 RETALIATOR (Ocean)

Another flight sim zooms in to join the burgeoning flock of aerial combat games. Ocean claim *F-29* is ultra-realistic, combining amazing simulation with fine gameplay. We'll believe it when we see it.

Find out what games you'll be playing over the coming months as Mark "The Oracle" Higham casts a critical eye over ST releases this summer

INTERNATIONAL 3D TENNIS

PALACE

The football games have come and gone, now it's time for an onslaught of tennis sims. Palace have released the first and already they've told us "It's like nothing you've ever seen" – but then they always say that.

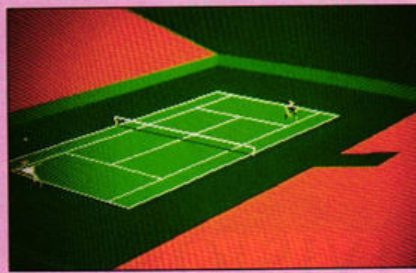
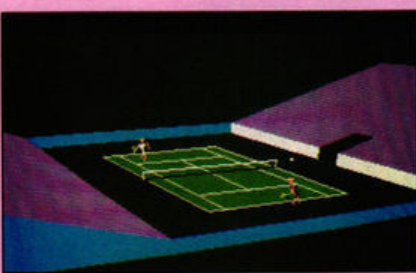
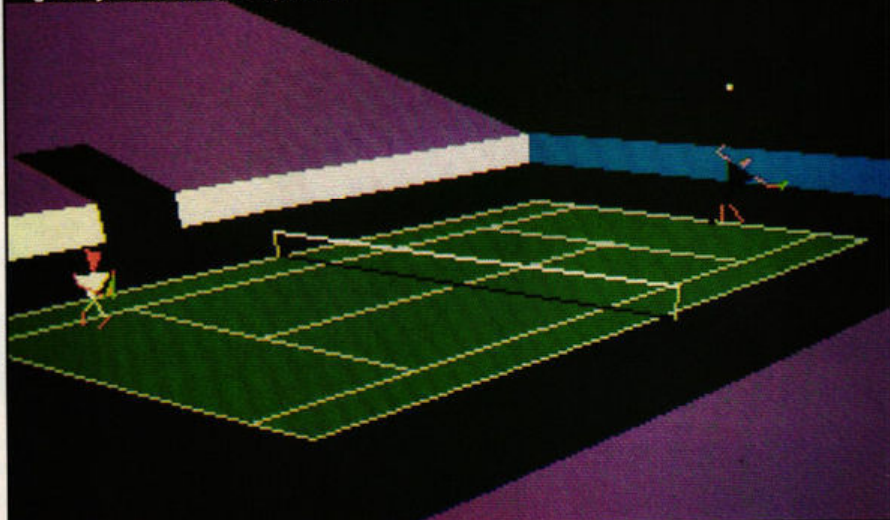
ST FORMAT can, however, vouch that the programmers have been carefully studying every tennis game released before coming up with this ultra-modern design.

Sensible Software are the programming team behind the game. They've been responsible for coding successes such as *SEUCK*

and *Wizball*, but this is their first venture into the world of vector-filled 3D graphics.

The early screenshots certainly look exciting; the tennis court can be viewed from any camera angle, giving a unique perspective, and there are four different surfaces to choose from. Sensible are hoping to be able to include sampled sound effects too, such as the noise of the ball as it's fired between players and the sound of a Wimbledon umpire keeping score. A few Mcenroe-like whimpers would just about wrap it up.

■ *3D Tennis* is like no other tennis game you've seen, it says here





■ AMC (Dinamic)

After *Army Moves* and *Navy Moves*, Dinamic are on the move again – this time in the direction of a kaleidoscopic, horizontally-scrolling shoot-'em-up. Become a member of the Astro Marine Corps, patrol the galaxy, seek out alien life-forms and blast their ducking heads off. Fast parallax scrolling and retina-warping visuals make early demos of AMC look incredibly exciting!



■ BOMBER MISSION DISK (Activision)

Activision's flight simulator had a shaky start earlier this year, but the bugs have been ironed out and the first mission disk is already on its way. For £14.99 you can engage in 16 additional levels of high-flying death-or-glory action.

Flight sim mission disks are obviously back in vogue. Mirrorsoft are set to release a new *Falcon* mission disk next month.

BATLEMASTER

PSS/MIRRORSOFT

After a barrage of bloody Turcan war sims, the action on the PSS label changes pace next month with the release of *Battlemaster*. It's a mixture of arcade-style graphics, strategy, and fantasy role-playing with a scenario that combines dwarves, elves, orcs and humans in a mystical adventure.

The main game screen provides an overhead view of the playing field and consists of character sprites and land features. You lead any group you choose – either orcs, dwarves, elves or humans. As you advance, you collect money to buy more followers and expand your team. The ultimate aim is to conquer worlds and re-unite people at the end by discovering parts of a gem.



According to game designer Mike Simpson, "*Battlemaster* is really two game styles merged together." By marrying an action element with the fantasy RPG scenario Simpson believes they've come up with a completely new game type. "It's unclassifiable. All the truly great games are difficult to categorise."

Unfortunately the RPG element is the typical bog-standard exercise where you need to collect magic swords, armour, wands and the all-important cash. To compensate, the action sequences include an exciting bow an arrow fight with vicious monsters.

"Our biggest problem was getting all the graphics into a 520 ST," says Simpson. There are 20 different monsters from ghosts to dragons and detailed backgrounds ranging from interiors of castles to panoramic scenes of trees and mountains. With the opportunity to have over a 100 sprites on screen at once, the action gets very hectic.

■ Elves, dwarves, orcs and humans come together in *Battlemaster*, the latest and oddest graphic-packed role-playing game from PSS



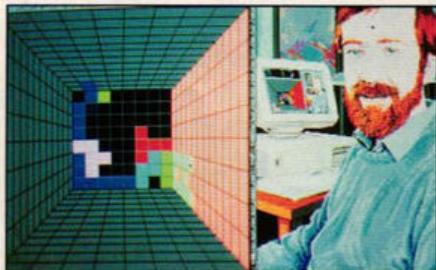
FLOOD

ELECTRONIC ANTS

The software shelves are awash with cutesy games. The Bullfrogs add their contribution next month with *Flood*. Written in their spare time while they worked on their next big-seller (more on this in issues to come), early demos suggest it's going to be infuriatingly addictive.



■ *Flood* is the Bullfrogs' contribution to the overflowing cutesy game market



■ WELLTRIS (Infogrames)

Soviet programmer Alexey Pajitnov became famous when the hugely popular *Tetris* was released. Now he's hoping for similar success with his latest game *Welltris*. The aim is to manipulate blocks falling down the sides of a well so they fit among the pieces already at the bottom. It looks and sounds like an upmarket version of *Tetris*, and comes with the warning that children under 12 are likely to find it too difficult.

PC

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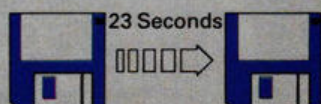
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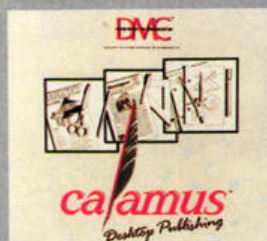


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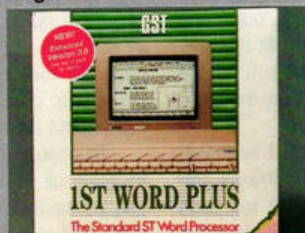
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beginning to end with everything new and*

On this superbly tooled, rigorously tested and completely brilliant Cover Tape you'll find the bold experiments and inspired doodlings of a professional musician at work (or should that be at play?) on his ST; plus the final, polished result – a sequence of stunning power created exclusively for ST FORMAT. If ever you needed proof that the computer on your desk is much, much more than a superb games machine, this is it!

But that's not all. Oh dearie me no, not by a long chalk. Not only can you follow in detail in the pages to come how FORMAT's Music Editor Jon Bates went about creating the sequence on the tape. Not only do we discuss what life is like for one professional musician using the ST (see page 78). But you too can experience the thrills and spills of making beautiful (and not so beautiful) music on your ST now.

If you're already convinced of the ST's musical abilities and have heaps of synths, drum machines and sampling equipment, then bully for you – we've included Jon's sequence as a MIDI file on the Cover Disk (see page 25 for more details), so you can muck about with it to your heart's content. All sections of the song are present and correct so you can have the piece right there in your living room played by your synth/single keyboard/tone module or whatever. So go on, experiment with the piece:

*exciting for the ST; and a
Cover Disk stuffed full
of useable demos,
public domain*

it's

*programs, accessories and utilities. But now we
present you with an exclusive Cover Tape, too!*

chop and change sections about, alter sounds and so on. (And if you do come up with an alternative version you think worthy of our ears, then send in your cassette version. At the very least you'll get an honorable mention in the music pages – and we may even go mad and start splashing out prizes!)

But what about the rest of us, I hear you object, those of us whose limited earnings and grumpy bank managers won't allow for such luxuries? Well, there's a public domain program on the Cover Disk that enables you to edit and experiment with Jon's music sequence without any expense whatsoever! In other words, you have everything here you need to get creative.

Whether you have a room loaded to the ceiling with the very latest hi-tech musical equipment or just a plain and simple ST, there is something in this issue to suit you. (Skip ahead to page 25 for details of how to use the Cover Disk public domain music software, if you really can't stand the suspense.)

To follow how Jon put the composition together all you have to do is read the description of each excerpt as you play through the tape. We believe we've covered just about every angle to get you hooked on music and your ST. So let's get straight down to business. Got the cassette lined up in the player? Ah one, ah two, ah one two three four...



■ **ST FORMAT Music**
Editor Jon Bates
preparing the special
Cover Tape in his
studio with the new
£2,000 Yamaha SY77

a cracker!

Jon Bates was wise enough to talk to tape for us as he created the sequence. All we've done is edit out the swearwords...

Most music, it may surprise you to discover, is written around a plan, a framework you can hang the sections on. The idea that music, or indeed any art form, is more or less "off the peg" may come as a shock, but in nearly every style you can imagine there is a format the music follows.

Take an average chart record. The main bit you remember and sing while you're in the shower is usually the chorus ("I should be so lucky, lucky, lucky, lucky..."). The bits in between are verses ("In my imagination, there is no hesitation..."). There are other sections such as the introduction, perhaps a solo and an ending. The solo is more than likely to be a repetition of the verse harmonies with an instrument featured over the top, while the

ending is quite often the chorus repeated and then faded out.

If the song starts to sound monotonous ("lucky, lucky, lucky, lucky...") an old trick is to take the whole key up about two thirds of the way through (there's a real cracking example of this on Stevie Wonder's "I Just Called to Say I Love You," invariably cocked up in spectacular style by wedding bands).

Taking a plan based on the sort of song described above, it doesn't take much working out to see that two main sections are required: verse and, more importantly, chorus. There may even be similarities between them, for example in the drum pattern. Generally this is my starting point. Music sequencers are very good tools for this sort of job for four reasons. ➤

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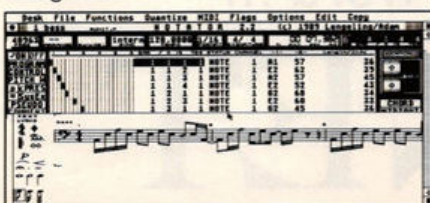
➤ Most let you work on separate sections which you can then arrange into a complete piece. Sections can be repeated, maybe with extra sounds added for some appearances; the key can be changed usually with one control; and if you don't like anything, thankfully there is always the trash bin.

The most obvious advantage of sequencers, however, is that they give you complete control over every note. Difficult sections such as drum fills can be recorded very slowly if necessary. Or you can use the software as a sketch pad to try out ideas and when something worthwhile turns up it can be fleshed out into a concrete piece of music.

As you'll see and hear, this is exactly the way that the Cover Tape has been put together. As stated elsewhere, the Cover Tape was put together using the C-Lab Notator program, but pretty well any sequencer would suffice – including several on the PD market.

A SIDE

1. [Tuesday 5 June, 11.01] The whole idea starts from this bass line. Meddling around with sounds I found a juicy bass sound, and the order of notes, as often happens, falls into place without me thinking about them. Putting the ST into record mode, what you hear is the very first and only version – listen very carefully and you can hear a timing error and the last few notes in the wrong order.



■ The notation version, mistakes and all



2. [11.09] Having fixed up the bass line, both by hand and by software, I've set it to cycle (that is, repeat) endlessly while I search for another sound that complements it. This done, I'm now working on a melody line. As soon as one fits I'll record it as fast as I can get it down. (Some sequencers can record many "takes" in cycle mode, from which you can choose your favourite.)

Although I used quantization – a feature of all sequencers that corrects timing – to make sure the bass line was absolutely in time, I'm not going to use it for the lead line because it takes the "live" feel out and renders it dull and mechanical.

MIDI DETAILS

Load up the MIDI files and you'll need some further information to get you going. On the files the following channels have been allotted for various instruments:

- 1 Bass
- 2 Piano
- 3 Lead synth
- 4 Brass
- 16 Drums

The drums also need a little information, since there is no agreed standard between drum modules concerning which note plays what drum. Consequently the note that plays that thunderous bass drum on one machine could well play a bell on another!

On these files the basic drums correspond to these notes and note numbers:

- Kick drum is A – number 45
- Snare drum is E – number 52
- Hi-Hat is A – number 57

You'll have to adjust the other odd drums to suit your set-up. To get your drum machine to work, either change the note numbers on the machine or change them in the software. If all goes astray you still, of course, have the MIDI files to play with – unless you've been a complete oaf and wiped them!

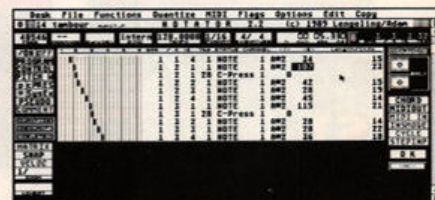
■ Experimenting with drum patterns using the ST and the C-lab Notator program, if you're stuck for ideas, ad lib and just see what happens – you might be surprised



■ Both lines playing together, as they are on the Cover Tape



3. [11.27] Same as before, but now I've added drums. I started with just bass and snare drum, but this felt too empty so I added an off-beat hi-hat. This still felt a bit lumpy and I'm now trying several other tricks – lots of hi-hat, a shaker, more drums... (Time passes) I'm going to settle on the Tamla Motown style tambourine to smooth it out. When recording the tambourine I slow the whole program down to get the beats right and also to make an effort to get some sort of definite accent into the tambourine rhythm – if I don't it sounds very dull and mechanical.



■ Varying tambourine velocities. The number highlighted and the column below it show variations on a scale of 0 to 127



4. [11.39] I think I may as well follow the same routine for the second theme... Changing key I've just found another bass line that contrasts just a little with the first, and as soon as it's fixed I shall add a melody: this time a brass riff with a top and bottom layer...

The drums start the same way, except that I want the bass and snare to follow the bass ➤

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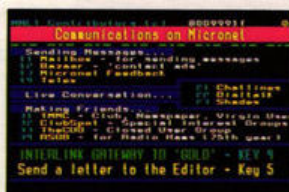
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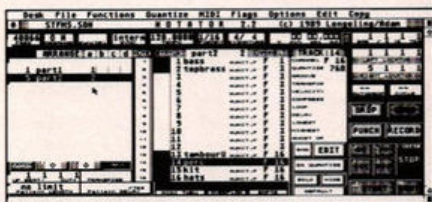
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➤ line rhythm. The tambourine is copied from the first section. What you hear now is the one following the other: I nearly always try this out as soon as I can, so I can see whether the sections are going to feel right together.

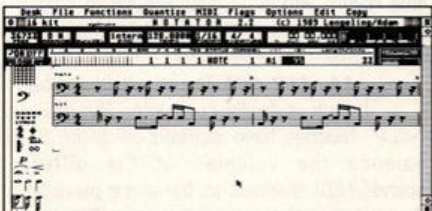


■ Notice the use of the arrange section on the left-hand side of the screen where I try out part 1 followed by part 2



5. [12.02] Brainstorm time: messing around with the brass sound I've found myself dropping into the same pattern on several occasions. Ideas are too few to waste, so I'll get this down as a chord pattern without any rhythm. I've just been playing with a piano sound and the same thing is happening – an idea that's just too good to miss. This time I reckon I can add drums almost straightaway.

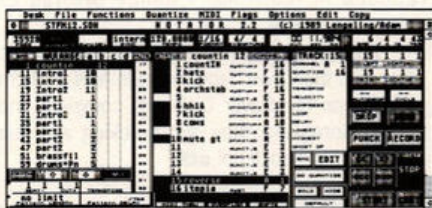
At this stage in the proceedings, however, I can't see where they fit into the scheme of things. I'm trying one or two arrangement ideas, but they all seem a little forced. Not to worry, though, I can always save them for another piece. Usually as I build up a piece I try different arrangements as I go along. As I play through it, points that need altering occur to me and I try to fix them on the spot. As before, none of the main sections is quantized, though I shall be editing out the odd bum note by hand! I'm putting both ideas on the Cover Tape one after another, but I'm experimenting with a rough try-out arrangement on the left-hand side of the screen.



■ Experimenting wildly with a very rough try-out arrangement on the left-hand side of the screen



6. [12.14] Playing through a rough arrangement it occurs to me that I could do with some sort of introduction! As a starting point let's try the main drum pattern minus tambourine and bass. Another pattern might be the bass line copied from the first section, the idea being that the piece builds from drums, to drums plus bass, and finally the whole tune.



■ The arrangement, as ever, is still completely flexible, and includes the basic drum pattern which you can hear on the Cover Tape

DAT'S ENTERTAINMENT

The Cover Tape performance was mastered directly from the desk onto a Casio DAT (Digital Audio Tape) machine. DAT, the latest thing to hit the audio industry and soon to become available in the high street, is sound sampled and stored onto tape. The tapes look like miniature VHS video cassettes, and indeed the way the tape heads work is also similar, using rotating scanning to cram lots of digital information onto the tape. The comparison of vinyl records to cassette tapes is not unlike that of CDs to DAT in terms of convenience.

The system has many advantages over CDs. The sound is cleaner because DAT samples at a higher rate than CD recordings use; they can search and find tracks by name or number as each track can be referenced; the access time is fast (only eight seconds to wind through a C60); and of course you can record again and again.

DAT has in fact been available for years. The problem has been the violent eruptions it has caused within the audio industry. Sony, always the maverick, were keen to get it going about four years ago, but the main producers of CD equipment, together with the record industry, were not too keen to allow a serious competitor onto the market. The problem is not so much home taping (though in my experience copying a cassette to DAT actually improves it), but the professional

copier. All you have to do is to take the digital data output from a CD and record it directly onto tape, avoiding the sampling circuitry. If the DAT plays back at the same sampling rate

as CD – 44.1 KHz – bingo, a perfect flawless copy. Rather like a family of rabbits, there would very soon be thousands of flawless, and illegal, copies.

So the search is on for a system of markers that can be put onto CDs that renders data copying impossible. DAT's normal sampling rate is 48kHz which gives it the edge soundwise over CD. It goes without saying that the reproduction is noiseless and excellent. As previewed in ST FORMAT last month, the next generation is already with us, using your ST to put high quality sound onto hard disk. The next step is storing on optical disks. Pretty fast progress when you think that only a couple of generations ago, sound was stored by scratching tin plated cylinders!

■ Balancing the volumes of the different sounds as the Cover Tape plays back



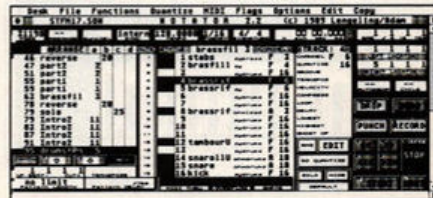
7. [12.27] On reflection the drum intro doesn't seem very dramatic so I'm looking for something a bit stronger. Drummers normally count off the beginning of a piece, so that's where I'm starting. By cycling the pattern I can try out various parts and sounds on top. The icing is finding a sound called "Reverse Hit" on the Phm – this is the whooshing sound that leads up to a bang at the end of this section. I want the bang to coincide with the beginning of the next section, and so although I shall play the notes in, the final positioning of this sound is going to be done by hand – moving the notes until the desired effect is achieved.



8. [12.38] The arrangement as it stands at the moment. I've tried following one intro on from another and it works. To link each section together I'm going to use part of the original intro, and to vary the repeats of the main sections I'm adding extra chords and sounds to reduce the boredom factor. The same goes for the drum pattern at the start. Running it through I think it sounds monotonous.

The answer, I have discovered, is to put in drum fills, both recorded quite slowly with the

second one put in to interrupt the pattern. The beginning sounds weak, though, so I shall add CSM and Phm sounds to thicken up the bass and snare which has the extra stabs and reverse hit.



■ Adding drum fills to reduce repetition, and fattening the bass and snare sound

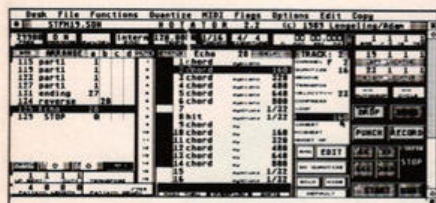


9. [13.01] I've returned to the two ideas – piano and brass – I discarded earlier. I'm adding drums to the brass and then I'll try a very ad lib loud brass section solo on top. This is going to be recorded in real time, because doing it slower seriously risks losing its edge...

Listen closely and you'll catch a few notes out of time, but the feel is OK, I think. Now some more work on the piano section, stored on a separate file. The piano runs are also done in real time with corrections afterwards – ➤

➤ though I'm cheating by adding them on top of the chords I put down before.

The drums that go with this are copied from the opening of the piece.



■ The current state of play with the drums added to the brass riffs in the centre window

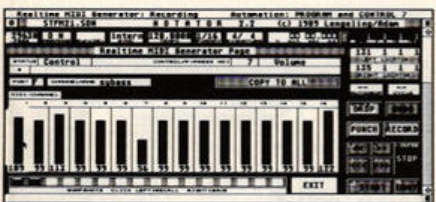


10. [13.49] Now the whole arrangement is finally starting to take shape. I've been adding some extra sounds and percussion to some sections to fill them out a bit. One or two sounds have changed slightly and the piano and synth solos are now done. The backing for both solos is the same, using the chords and rhythm from the first main tune. I put the piano solo in before the piano break – it starts in a different key, but changes back to the original half way through: this is a cinch to do in the arrange mode. The piano part took several goes before the solo took a shape I was happy with. Like all the other solo parts it won't be quantized.

The main work now is sorting out the ending... A loud chord at the beginning of a bar on a piano sound, I reckon. This I copied onto another track, but delayed it so that it occurs later. To give the effect of echo, I'm reducing the velocity (that is, the strength with which the note is struck) of this second chord...

Now I've repeated the whole process for a third, fourth, fifth and sixth chord, each one delayed more than the previous one and each one having less velocity until the sound finally fades away. Sounds good – to me, anyway!

I've also copied the whole group of chords onto another set of six tracks in the pattern, but given them a brass sound. With some fine tuning of the velocity this, too, fades away nicely now. The peculiar rising noise, by the way, is yet another Phm sound called "Flimmer" stabbed at the same time as the end chord.



■ You can see that a whole load of chords are featured in the centre window. A closer look reveals that they all have delay times to create the echo effect you can hear on the Cover Tape

THE B SIDE

The B-side of the tape contains the full version of the tune using the following equipment. The main keyboard for inputting notes and playing is the new Yamaha SY77. This provides most of the basic sounds – and a jolly good job it does too. It's also the backbone behind the rhythms, since it's a versatile beast and pretends to be several instrument simultaneously. Well worth £2,000 of anyone's dosh!

Money does not mean everything, however,

DO BE, DO BE DO... FIVE FORMAT MUSIC-MAKING TIPS

■ **DO** discard ideas if they don't work – you can always keep them for another day. The sequencer on the Cover Disk lets you file away sections, patterns and sounds separate from the main song. Use these as a goodie bag which you can dip into.

■ **BE** careful not to overuse quantization – unless you're actually trying to produce a rhythm track with as much interest as a road drill! You tend to get a better result if you record the parts a bit slower so you can be a little more accurate.

■ **DO** start with a completely different set of notes if you find that your ideas sound very similar. (The number of demo and games tunes that use A, G, F and E as a bass line is beyond belief!)

■ **BE** patient enough to leave mixing your sounds until the following day. After several hours your judgement is definitely impaired (not to mention your ears). The phenomenon

known as "threshold shift" takes place and your ears cannot discern upper frequencies, so the upper limit of your hearing shifts down. Tapes made after long and arduous sessions often sound very scratchy and tinny. Combine this with a set of average headphones and the results sound woollier than a Welsh town on market day.

■ **DO** try to use a decent set of speakers to hear your work through. This may be difficult with some STs, but if you use a TV as a monitor it shouldn't be too hard to fix. Unfortunately most TVs and monitors sound like a wasp in a tin can. If you are using MIDI instruments, then at a pinch you can use a hi-fi system. Headphones are not too bad, but apart from converting your ears into braised lamb chops they tend to be a bit light on the bass sounds. Tapes produced using this method will probably blow the bass woofers out of any hi-fi they are played over as you over-compensate for the lack of it during the mixing stage!

as the second sound generator proves: it costs about one tenth of the two grand you need for the SY. The Kawai Phm module was added into the system and backed up the drums, fattened out the bass and played the solo at the end.

And costing even less than this, would you believe, is the Casio CSM-1 which completes the trio and which was used mainly for percussion, of which it has a wide selection.

The sequencer was the 2.2 version of Notator which has the bonus of running an additional two extra MIDI circuits, thanks to the C-Lab bolt-on goodies *Unitor*. In theory at least this offers 48 MIDI channels, which may sound extravagant, but that's only because it is.

With a little juggling the B-side could be done with software costing a fraction of the price. So why wasn't it? Well, like many things in life, the more familiar you are with something, the easier it is to work with. I've had C-Lab software for some years now, and wouldn't be parted from it, not even if I were offered an eternal subscription to *ST FORMAT*. (Well, maybe...)

And what about the audio department? All the leads from the SY77, Casio and Phm were fed into an elderly but souped-up Seck mixer which takes up to 16 inputs and feeds an eight track recorder if necessary (not the case here).

The Casio and Phm were treated to a little bit of reverb from a MID'd up Pro Verb 200, a multi-effects unit controlled by the ST that can be made to change its effects at the drop of a MIDI command. The SY77 has effects and reverb built-in: two modulation units and two reverb units give you 40 adjustable reverb settings, and four modulation effects for each of the stereo channels. You can also alter the configuration of how these units plug together.

What you hear on the tape is what I got on playback with no professional trickery. I used little reverb and echo, just enough to give it a lively sound.



11. [17.20] The result of six hours work is finally complete. The finishing touches have involved using the ST to balance the volumes of the different sounds/MIDI channels as the piece plays back. You can record this in real time and thus have an automated mixdown where the sliders magically move. When you're using multi-timbral sound modules, as I was in this particular instance, it's the only way you can balance the sound coming out. You may have eight or even more sounds running simultaneously, but since the output is only the stereo of both the SY77 and Phm, you need to use MIDI volume control to get the mix absolutely right.

The on-screen sliders enable you to balance the instruments as you play through them. All the movements of the sliders are recorded in real time – hence the tag of automated mixing.

One thing before I sign off: the music pieces on the Cover Tape, and the files of them included on the Cover Disk, are copyright and not for borrowing. Now get cracking and see what you can knock up! **stf**

■ Next month we take a detailed look at the cost of setting up at home. We'll be outlining two set-ups: the absolute basic and the ridiculously luxurious. So till then, get cracking on the Cover Tape sequence!

DETAILS

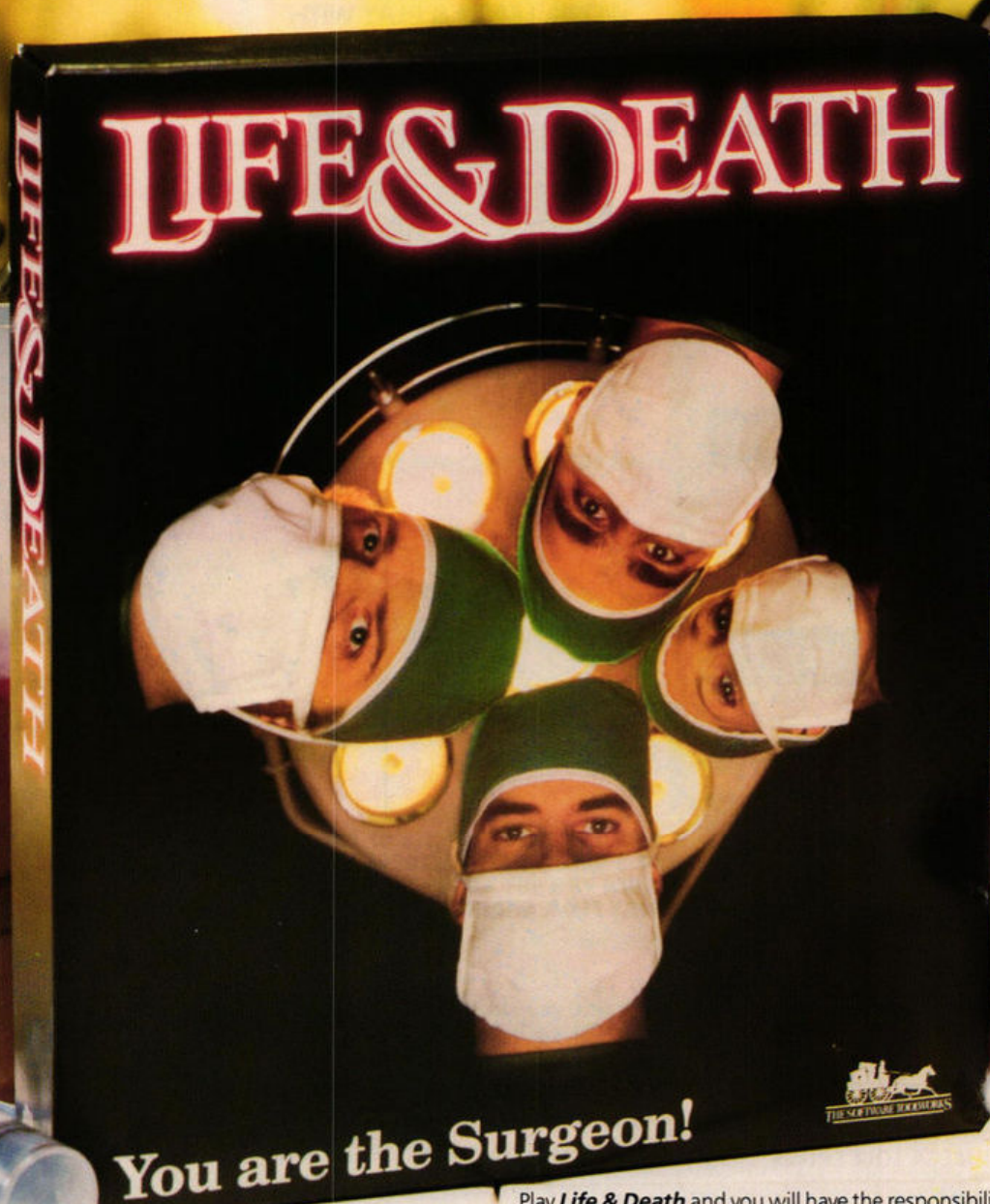
C-Lab programs are available in this country from Sound Technology ☎ 0462 480000

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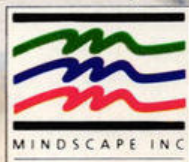
Turn to page 78 for an interview with a professional musician who uses C-Lab software.

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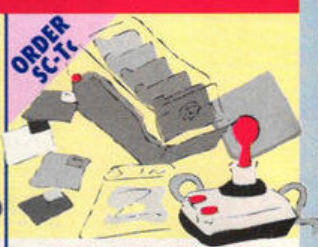
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stand near it and press fire. This is an information centre which enables you to find out about your ship. More importantly, you can swap and use other weapons and objects – vital if the game is to be completed.

The demo version of *Starblade* does not allow you to access other planets, and the menus are in French. However, there's plenty that can be done in this spectacular space adventure – so go get 'em, boy!

GETTING STARTED

Double-click on the STAR.PRG program in the STAR folder. Ensure there's a joystick in port one and use directional movements to control the main character. For further playing hints see the help file STAR.DOC.

Menusys

BY: DAVID JENKINSON

SIDE: A

MACHINE: ALL STs

FILES: MENUSYS.PRG, MENUSYS.DOC, COPY.SYS

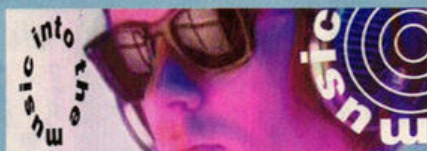
Make the most of your ST with this great collection of utilities – all accessible from the same environment. From four GEM-like drop-down menus you can action no less than 38 utilities. Here's a taster of what's on offer:

- Printout of files in ASCII, hexadecimal, binary and decimal in a variety of fonts and sizes;
- Disk copying. Normal, extended and PC-compatible formatting;
- Fastwipe formatting (initialises a used disk in five seconds);
- Disk read/write speed increased by an astounding 40%;
- Alterable system variables such as mouse speed, palette, key click and error bell.

Phew! And that's just half the story. In addition all standard deleting, creating and renaming file functions are supported – GEM is almost rendered useless.

GETTING STARTED

Colour users should switch to medium resolution. Double-click on the MENUSYS folder and then on the file MENUSYS.PRG that appears. Once loaded, the main



MIDIsend

BY: R. HOPKINS

SIDE: A

MACHINE: ALL STs

FILES: MIDISEND.ACC, MIDISEND.DOC, MIDI.RSC

A vital Desktop accessory for MIDI enthusiasts enabling the transfer of MIDI data between the ST and any MIDI instrument. The accessory is useful if you want to send program and control changes from within a sequencer or editor. When the accessory is selected, a dialogue box appears requesting you to input a string of MIDI data in hexadecimal format. Clicking on Send transmits the data. Note, the hexadecimal characters must be in lower case.

GETTING STARTED

Before you can use *MIDIsend*, you must copy it to another disk because it doesn't work while inside a folder. Prepare a blank disk by formatting it – make sure it's a blank disk and not the Cover Disk! Insert the Cover Disk in drive A and double-click on the floppy drive A icon. Double-click on the MIDISEND folder that subsequently appears. Drag the files MIDISEND.ACC and MIDI.RSC onto the drive B icon and, when prompted to insert the disk for drive B, put in the ready-prepared disk. Follow the on-screen prompts. Put the Cover Disk in the drive when asked for the disk for drive A.

When the disk copying is complete, put the disk with *MIDIsend* in the drive and reset your ST. You can activate *MIDIsend* by going to the Desk menu at the top of screen and selecting MIDISEND.

A few useful codes:

8n,note-number,velocity – note off
9n,note-number,velocity – note on
an,note-number,presure – poly key pressure
bn,control number,data – control change
cn,voice number – program change
dn,presure – channel pressure
en,lsb,msb – pitch bend

(n=channel number to transmit data on)

DESKTOP MUSIC

BY: PUBLIC DOMAIN

SIDE: A & B

MACHINE: ALL STs

FILES: BADIN115.TOS, ALTUR112.TOS, MUSIC.DOC

Two small music demos created by talented unknowns. These demos play in the background no matter what your ST is doing. You could word process, program, or sort out your finances while listening to sweet melodies. Side A has the file BADIN115.TOS in the MUSIC folder. Simply double-click on the file to start. On side B there's ALTUR112.TOS.

Menusys screen appears. You're presented with four drop-down menus: Desk, Printer, Disk and Options. To select a function, move the mouse pointer to the desired menu. All options in the menu appear. Simply click on the required item. Full details of what each menu option does can be found in the disk help file MENUSYS.DOC. Read it first!

WARNING: formatting completely erases a disk. Don't format any valuable disks. The data will be lost forever.

Text filter

BY: STEVEN PAGE

SIDE: A

MACHINE: ALL STs

FILES: TF.TOS, TF.DOC

This general purpose filter for text files converts renegade files to a readable format. If you have any files from alien word processors – PC or Amiga text processors, bulletin board systems, even alternative ST word processors – that include strange characters, *Text Filter* does its utmost to make them readable. Text can be converted from upper case to lower case and vice versa, and control characters and characters above 127 can be banished.

GETTING STARTED

Enter the TF folder by double-clicking on it. Double-click on the TF.TOS program and follow all prompts from there.

Chaos dungeon editor

BY: ANTONY BURDEN & SIMON OKE

SIDE: B

MACHINE: ALL COLOUR STs

FILES: CHAOS.APP, CHAOS.DOC

You just know you won't complete *Mirrorsoft's* fiendishly addictive *Chaos* adventure in your lifetime, so why continue trying? Take the easy option: *cheat!* With Burden and Oke's *Chaos* hack-pack you can do just that.

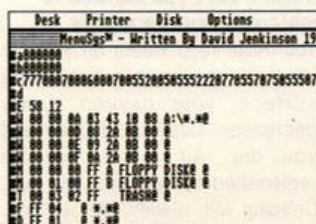
Wouldn't it be nice if you could print any level and thus know what to expect when turning a blind



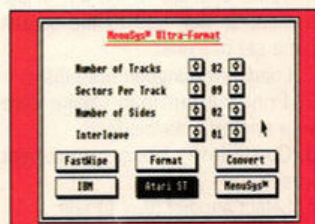
■ Uncover hidden files with Menusys' attribute editor



■ Configure your printer down to the smallest detail



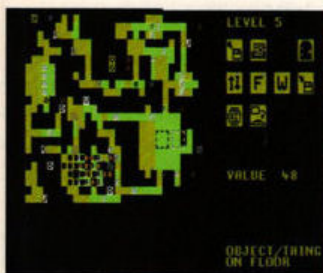
■ View files in any format – indispensable for programmers



■ Format a disk with this multi-parameter menu: ST or IBM



■ Print any level and find out what's around that corner and behind those locked doors



■ Now get down to the nitty-gritty of making the game easier – or harder!

➤ corner? Or automatically open all locked doors on a level? Or even show all the objects on walls and floors? Better still, wouldn't it be helpful if you could rearrange levels to make them easier – or harder – to complete? Well, with the *Chaos Dungeon Editor* you can do all the above and more.

GETTING STARTED

Double-click on the SIDE_B folder. Once inside you'll see the CHAOS folder; double-click on it to reveal the CHAOS.APP file. Double-clicking on CHAOS.APP starts the editor.

On loading you see a file selector. Use the file selector to load either your saved game position CSBGAME.DAT or the MINI.DAT file from the *Chaos Strikes Back* utility disk. MINI.DAT contains the initial dungeon layout, and is used by the Make New Adventure function on the utility disk.

You now see the level selector. Click on one of the numbered buttons to view the appropriate level. When the mouse pointer is moved over a button, a miniature representation of the level is shown below. There are ten levels in CSB; you start on level five.

A map of the level you selected appears to the left of the screen. To the right of the screen are a set of icons:

1. Load new dungeon from disk;
2. Print current map (make sure your printer is on line first);
3. Open/close all doors on current level;
4. Select another level to edit;
5. Hide/show floor objects (keys, food, monsters, pressure pads);

6. Hide/show wall objects (keyholes, altars, writing etc.);
7. Save dungeon to disk;
8. Exit program (when you click on this icon a further two icons appear; click on Y to exit, N to abort.);
9. Save screen to disk as a .NEO or .PI1 file.

The key to the dungeon may be viewed or printed at any time by pressing the Help key.

Deeplair

BY: JOHN GYMER

SIDE: B

MACHINE: COLOUR STs

FILES: DEEPLAIR.PRG,
DEEPLAIR.DOC, DEEPLAIR.IMG

A plot? You must be kidding! Intelligent and thought-provoking? Surely you jest! *Deeplair* is a fast, furious, simultaneous two-player underwater shoot-'em-up by the author of the revolutionary Canvas art package.

Both players control a sub armed with Woofer torpedoes. Your aim is simply to destroy your opponent's subs before he destroys all yours. You have six torps, so shoot wisely. Re-arm by guiding your sub back to base.



■ Dodge the torpedoes and sink your opponent's subs



■ Make sure you surface to replenish your air supply

You must keep watch on your air level. If you remain below the surface, your oxygen slowly decreases. Lose all your air and you die. Air levels can be replenished by surfacing the sub. Colliding with islands, the sea bed, whales, the other player or a torpedo results in death. ➤



COMPOSER

BY: DAVID DICKENS

SIDE: B

MACHINE: 1MBYTE

RECOMMENDED

FILES: COMPOSER.TOS,
COMPOSER.DOC, CRACKER.MUS,
CRACKER.SEQ, CRACKER.TNE,
CRACKER.DRM, CRACKER.SNG,
CRACKER.MID

Composer is designed to make the production of music on the ST simple and enjoyable, and at the same time negate the necessary complications of commercial packages.

The program is very comprehensive: notes can be entered from the ST's keyboard and in real-time from the MIDI keyboard; transposing and copying are available; output to

MIDI, the ST sound chip and triggered drum machines is possible. For an exhaustive insight into the musician's mate, read the extensive documentation in the COMPOSER.DOC file.

GETTING STARTED

To begin, double-click on the COMPOSER.TOS file inside the COMPOSER folder on side B. You are asked if you wish to use the printer port to trigger a drum machine. Type N. Pressing Backspace moves you to the file menu where you can load all the appropriate song information. The music data is stored in four parts:

1. 16 beat drum bars (DRM)
2. 16 beat music bars (TNE)
3. Sequences (SEQ)
4. Songs (SNG)

To load the demonstration files press 2 then type CRACKER and press Return. Type CRACKER again and hit Return. Press 4 and type, predictably, CRACKER followed by a stab at the return key. Press 6 and type Cracker again, followed by Return. Press 9 to return to the main work screen. Press F7 to make the song function active. Press Shift F2 to listen to the music through the monitor speaker. If you have a MIDI keyboard, press F10 to display the parameters menu. The CRACKER.MID file is required when external MIDI instruments are used.

Sequence Composer by David Dickens (c)1989									
Drum bar 1									
1234567890123456									
Hi Hat									
Snare									
Bass									
Tone A									
Tone bar 1									
23333-3-3-3-3-3									
6D6DF-D-F-D-C-D									
Tone B									
Tone bar 1									
34444-4-4-4-4-4									
6D6DF-D-F-D-C-D									
Tone C									
Tone bar 1									
55-5 45-4									
EF-C BC-F									
Tone D									
Tone bar 1									
Sequence No. 1									
Song 1									
Drum A B C D									
1 1 1 1 1 1 1 1 1 1									
2 1 1 1 1 1 1 1 1 1									
3 1 1 1 1 1 1 1 1 1									
4 1 1 1 1 1 1 1 1 1									
5 1 1 1 1 1 1 1 1 1									
6 1 1 1 1 1 1 1 1 1									
7 1 1 1 1 1 1 1 1 1									
8 1 1 1 1 1 1 1 1 1									
9 1 1 1 1 1 1 1 1 1									
10 1 1 1 1 1 1 1 1 1									

■ This is the demo song provided – a useful template for your own creations. Don't be modest, start experimenting!

Sequence Composer by David Dickens (c)1989									
Drum bar 1									
1234567890123456									
Hi Hat									
Snare									
Bass									
Tone A									
Tone bar 1									
23333-3-3-3-3-3									
6D6DF-D-F-D-C-D									
Tone B									
Tone bar 1									
34444-4-4-4-4-4									
6D6DF-D-F-D-C-D									
Tone C									
Tone bar 1									
55-5 45-4									
EF-C BC-F									
Tone D									
Tone bar 1									
Sequence No. 1									
Song 1									
Drum A B C D									
1 1 1 1 1 1 1 1 1 1									
2 1 1 1 1 1 1 1 1 1									
3 1 1 1 1 1 1 1 1 1									
4 1 1 1 1 1 1 1 1 1									
5 1 1 1 1 1 1 1 1 1									
6 1 1 1 1 1 1 1 1 1									
7 1 1 1 1 1 1 1 1 1									
8 1 1 1 1 1 1 1 1 1									
9 1 1 1 1 1 1 1 1 1									
10 1 1 1 1 1 1 1 1 1									

■ Using the edit functions you can create your own unique sequences

COMPOSER Version 1.0									
By David Dickens									
1989									
Do you wish to trigger a drum machine from the printer port (Y/N)?									
Answer Y if you are using either a MIDI drum machine or the ST's own sound chip									
HAVE FUN!									

■ If you use a drum machine wired through the printer port press Y on this menu



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London W11 2DX.

➤ Incidentally, budding artists can edit the DEEPLAIR.IMG file with an art package (such as Canvas?) and create a whole new dimension to the game.

GETTING STARTED

To begin playing *Deeplair*, double-click on DEEPLAIR.PRG inside the DEEPLAIR folder on side B. The game, once loaded, begins immediately. Each player requires a joystick, so you'll have to wrench the old mouse lead out again... Joystick movements are as expected: up, down, left and right. The fire button launches a torpedo. Pretty simple really.

C Series

BY: WARWICK GRIGG

SIDE: B

MACHINE: ALL STs

FILES: README.DOC,
DISK1.TXT, DISK2.TXT, GULAM.G,
GULAM000.G

More source C code to go with Warwick Grigg's ongoing series using the PD Sozobon C. Copy the files into the WORK folder of your Sozobon C compiler disk and then turn to page 121. **stf**

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Flummoxed by files? Dumbfounded by disks? Perplexed by Cover Disk programs? If you have a problem with the disk – and you're sure there is no corrupted data – phone 0225 765086 between 2pm and 6pm on weekdays with your query. You'll be through to Richard Monteiro, our Disk Editor.

Before you call have ready the info Dickie needs to help you: the model of your machine; the version of GEM/TOS you're using; and anything you've got attached to (or plugged inside) the computer. Have the disk handy and your ST up and running, and a pen and paper handy to take any notes.

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Bath, Avon BA1 2AP

BACK UP YOUR DISK!

Because the oh-so-delicious *ST FORMAT* Cover Disk is non-standard and squeezes in a whacking great 400K plus of data per side, the back-up procedure is not simple. Follow these steps, though, and you won't encounter any problems. Do it any other way and you could knacker your Cover Disk.

1. Format a couple of blank disks – single-sided if you've got a single-sided drive, double-sided if you have a double-sided drive.
2. Write-protect the Cover Disk and insert it into drive A (if you have two drives, you lucky devil, insert the Cover Disk into drive B). Double-click on the drive B icon. If you're still saving up to buy a second drive, a message appears requesting you to put disk B in drive A. Simply click on OK.
3. Insert a freshly formatted disk into drive A. Double-click on the drive A icon.
4. Pick up a folder at a time from the Cover Disk window and plonk it into the drive A window.
5. If you have one drive then you'll be asked to insert disk A and disk B at regular intervals. Don't mix the two up! Disk B is the Cover Disk and disk A is the freshly formatted disk.
6. When you get a "disk full" error message, recopy the last folder – and subsequent folders – onto the second freshly formatted disk.
7. Double-sided owners, double-click on SIDE_2 once you've finished copying all the folders from side A of the Cover Disk. Job done!

READING DOCUMENTATION FILES

In virtually every folder on the Cover Disk you'll find a file with the extension .DOC. This is a help file and contains instructions on using the program. Ensure you read all help files before running any program.

To read a help file (or .DOC file) simply double-click on the file. Click on CANCEL if you don't wish to read the file; click

on PRINT to send the document to a printer; click on SCREEN to send the text to your monitor.

After each screenful of text the display will halt. Pressing return will scroll you up a line while pressing space will scroll up a complete page of text. Pressing Q or Control C will return you to the Desktop.

Future Publishing CANNOT be held responsible for

improper use of any programs on the Cover Disk. Basically, if you wreck your disk collection because you failed to read a help file, it's tough. Your problem, etc etc. Be sensible, follow the instructions, and you won't have any trouble.

Next month: how to leap from one program to another without getting mud on your boots

THE DISK NEEDS YOU!

We need *your* software – games, utilities, demos, anything good, original and preferably short. If you've written anything worthy of the *ST FORMAT* Cover Disk (and remember, it's the ones we reject that makes ours the best), send it with this form and full documentation to: Richard Monteiro, *ST FORMAT* Cover Disk Editor, 71 Barn Giebe, Trowbridge, Wiltshire, BA14 7JZ. Allow four weeks for a reply.

Name _____

Address _____

Daytime 'phone _____

Program title _____

Size of files in K _____

What's so brilliant about it _____

Don't forget to: ■ Enclose an SAE ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Cheer for England, if you want to and you don't think footie is crap

Please sign the following declaration: This program is submitted for publication in *ST FORMAT*. It is wholly my own work and I agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed

Note: we pay out up to £800 for contributions to our Cover Disk. But to earn that kind of dosh, of course, you'd have to write something pretty spectacular, original and complex.

FAULTY DISK?

In any disk duplication run as massive as *ST FORMAT*, it's possible that a minuscule proportion of the disks might be faulty. If you're unlucky, sorry. You're guaranteed a working replacement if you send your corrupted disk to:

ST FORMAT
July disk returns,
Future Publishing
30 Monmouth St
Bath BA1 2AP

DO NOT SEND YOUR DISK TO ANY OTHER ADDRESS OR YOU WON'T GET IT REPLACED! **stf**

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Now, with the release of the Atari and Amiga versions reviewers are reaching for their dictionaries to find new superlatives. ZERO described the game as 'totally excellent', the sound as 'absolutely brilliant' 89%; Your Amiga rated it 'the best soccer simulation to date - 95%'; YC World Cup Winner 97%.

Forget the rest - there's only one EMLYN HUGHES INTERNATIONAL SOCCER!

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ST FORMAT

Welcome to the very best in ST entertainment! This month we bring you the first ST review of Infogrames' amazing *Sim City*, as well as three pages of great game cheats. Strap yourself in for the next 23 pages as Mark Higham (that's him on the right) and the team give you the low-down on this month's big titles. Between them they've clawed their way to the top of nearly every ST high-score table, so rest assured you're in safe hands.



screenplay

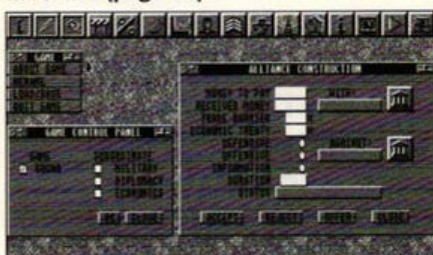


DYNASTY WARS

The famous oriental arcade game converted to the ST, stunning visuals and all (page 47)

IMPERIUM

Space-trading takes on a whole new dimension in Matthew Stibbe's 1000-year adventure (page 52)



CYBERBALL

It's the year 2015 and American football is at its most violent. Avoid colliding metal and exploding shrapnel in the latest coin-op conversion (page 50)

PROJECTYLE

After all the football sims comes a wild and novel ball game with super-fast eight-way directional scrolling and a three-player option (page 44)

ROTOX

A mixture of puzzles and shoot-'em-up action combine in this original concept (page 49)

STARBLADE

After the demo on the disk, read our opinion of Silmaril's space-trading game (page 58)

PHOTON STORM

Sample the psychedelic colours of Jeff Minter's *Oids*-style space shoot-'em-up (page 62)

DRAGON'S LAIR

After *Space Ace* comes Don Bluth's latest visual extravaganza. Just feast your eyes! (page 41)



SIM CITY

Infogrames' cult game finally hits the ST. Simulate a city – build it up, raise the taxes and suffer as your hard work is decimated by violent earthquakes (page 34)



F-19 STEALTH FIGHTER

The question on everyone's mind is whether Microprose's new flight sim can knock *Falcon* from its throne? We give you the answer (page 42)

BUBBLE +

Blow bubbles past all sorts of odd obstacles in the follow-up to *Bubbleghost* (page 62)

FINAL COMMAND

Retrieve missing data banks before they fall into enemy hands in this unique and puzzling adventure (page 55)

CHRONOQUEST II

Explore different time zones in a bid to refuel your ship and return to the 1920's in part two of the cult *Chronoquest* series (page 69)

DUNGEONS, AMETHYSTS, ALCHEMISTS 'N' EVERYTHIN'

Explore a kinky convent and slay dragons in this fun-packed budget adventure (page 70)

DAN DARE III

Virgin's platform shoot-'em-up starring the ageless comic strip hero. Hack the heads off those evil Mekons (page 60)

THE TOYOTTES

A maddeningly frustrating cutesy game, combining the daftest hero with hosts of platforms and ladders. This is one hell of a puzzle (page 67)

GHOSTS 'N GOBLINS

We've already seen the sequel, now comes the conversion of the original coin-op. Journey through the scrolling landscape, blasting deadly ghosts and spooks (page 56)



You've played flight sims that take you on a hellish, gut-wrenching journey through the skies. Turbo-charged racing sims that make you afraid to step off the pavement. Submarine sims that give you the shakes when you think of taking a bath.

Now comes the city simulator that's going to make you retire to the countryside. With its conspicuous lack of heat-seeking missiles and laser-hungry aliens, you could be forgiven for thinking the idea is so far-fetched it couldn't possibly be a success. Think again, and read on.

Sim City puts you in the role of mayor. Your job is to build up a city, satisfy the whims of a whinging public and keep your finances in check. The game is an amazingly addictive challenge on this level, but you can have even more fun by inflicting disasters on the land such as earthquakes or flooding. This leaves you with the major headache of trying to recover from the disaster. Alternatively, the game has eight preset scenarios which give you specific objectives such as restoring an earthquake-torn San Francisco to prosperity within five years.

At the start of a fresh game you are allocated a budget – in easy mode this is \$20,000, less in harder games. With this cash you need to place residential, industrial and commercial zones strategically around the map. All of these require an electricity supply, so

sim city

INFOGRAMES £29.99



Sim City has already collected bags of awards even before the ST version hits the UK's shelves. Unelected despot Mark Higham brings you the exclusive and definitive review of this cult challenge to create and maintain your own metropolis

ICONS SEE CLEARLY NOW: WHAT THEY ALL MEAN

A control panel down the side of the map provides sixteen icons which are used to select and position landmarks. Differing features cost various amounts of cash and some, such as roads and rail, incur an annual maintenance fee that can seriously eat into your budget.

 Airports improve commerce (\$10,000)	 Bulldozer demolishes misplaced zones (\$1)	 Stadium – the residents demand a stadium after just a few years (\$3,000)	 Sea Ports improve industrial trade (\$5000)
 Rail lines must all be linked together (\$20)	 Fire Department – As police dept (\$100)	 Commercial zones are more important later when commerce increases (\$100)	 Industrial zones should be sited away from housing because of the risk of pollution. (\$100)
 Parks – improve the land value of residential areas (\$10)	 Power Lines supply power to every dwelling (\$5)	 When residents complain about crime, it's time to install a police station. Each costs \$500, and a further \$100 is needed for yearly maintenance	
 Power Plants can be powered either by coal (\$3,000) or nuclear energy (\$5,000)		 Residential housing – land value goes up if the area is placed near coastal regions or forest (\$100)	
 Road is the most common method of communication. Roundabouts can be created for \$10			





■ **The objective is to design the ultimate city, providing housing, employment, road networks and power lines**



■ **Get the combination right and your city thrives. People move in, bringing more taxes which aid growth**

you need to buy a power plant. Position the power plant too close to the residential area and people don't want to move there, move it too far away and you can spend a fortune buying power cables to link it to their houses. When these sites are linked to power, people begin to move in.

At the start of a game it's best to position the zones close together so the residents can get to work fairly easily. Roads are then laid to improve access.

To encourage people to move into your city you need to set low tax rates, but this doesn't generate much income. At the start of a game keep a tight rein on your expenditure; buy only essential items until the city has established itself. As the city grows larger you can increase the taxes to pay for additional facilities such as a port or an airport to encouraging trade.

As the city develops, you begin to realise the problems of planning. Suddenly your aesthetic layout suffers from congested roads and unemployment. The answer may be to lay an expensive railway line or to demolish property to make way for new road networks, but be careful, make a few mistakes and you can end up with even more nightmares. Crime and fire outbreaks require a police station and fire brigade, and since these are on-going services they require perpetual funding, eating up a large chunk of your municipal budget.

Just surviving on a year-to-year basis can be a serious headache, but when disasters happen things really heat up. Floods knock out coastal regions and earthquakes can result in fire sweeping across the city. With housing devastated, people begin to move away, lowering your

FAST FORWARD 120 YEARS INTO THE FUTURE

The game is played in monthly cycles with each month lasting anything from 30 seconds to several minutes depending on the speed at which you play. It takes many years to build a city on this kind of scale. As you attract more people you accumulate more taxes, but expenditure increases as well. You pay an annual rate of \$100 for each fire and police station, and an enormous fee for every section of road, rail

and bridge that you lay, particularly if they stretch across water. In this city the annual fee for transport is \$1,800 and with just an income of \$3000 from 62,000 people, you aren't left with much cash to build up your city. With the residents invariably making demands beyond your budget, you soon feel like asking them to see if they could solve the problem any better!

Heavy traffic is already mounting even in this relatively quiet area

Parks are added to improve the value of land

Bridges are easy to build, but you pay an annual maintenance fee which can be expensive

Industrial zones cause heavy pollution and need to be positioned away from residential areas. In this example, residents haven't moved into this property because it is too close to an industrial zone



Power Plants can be either coal or nuclear. Nuclear reactors can suffer a meltdown, leaving areas unuseable

There should be more police stations in the inner-city

Sea ports improve industrial growth

The tunnel carries power

Properties close to the shoreline pay higher taxes

Power lines carry power to the community

This is a self-sufficient community

This was where the city first developed. As you can see, it's now undergoing nightmare traffic problems because of poor planning and growth

Stadiums encourage residential growth, but they also create considerable traffic problems

Airports are essential when the city grows. They increase commercial growth, but are expensive to build. Be kind to residents and position them outside densely populated areas. A helicopter and plane fly across the city once the airport is established. The helicopter informs you of heavy traffic areas

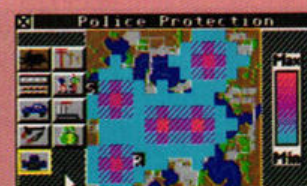
Rail lines relieve the congestion in densely populated areas. A city could be constructed entirely of rail lines rather than road networks



■ **Individual maps show the progression of your city's population density**



■ **But growth brings its problems. Crime escalates, making people move away**



■ **Your police force is inadequate so you invest more in crime prevention**



■ A perfectly respectable and thriving town can be ruined by disaster



■ Here you've been brought down by an earthquake

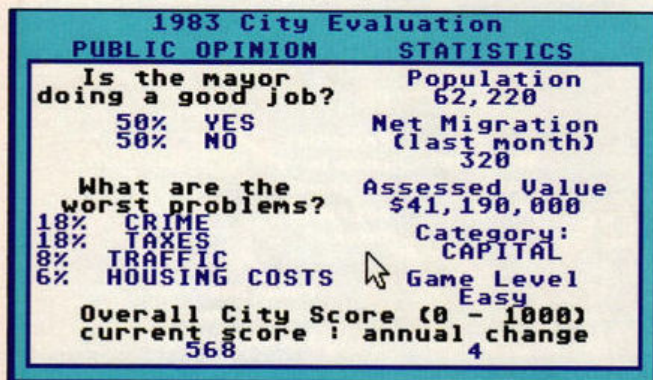


■ The aftershocks cause fires which rage through your city, decimating areas

➤ annual income and making it hard to sustain growth. Make repairs quickly – or face ruin.

Sim City is played using GEM windows, icons and drop-down menus. Using the cursor keys or the window slider bars, you can view the entire map. Icons down the left of the screen enable you to select the types of property to position across the map.

■ As your city grows you can obtain a progress report on the issues most concerning your residents



EFFECTS

The graphics and sound are nothing to rave about. Graphics have a distinctly 8-bit look about them, but despite being chunky and poorly detailed, they serve their purpose. Different graphics represent increased activity as your residential areas swell and your industrial zones start pumping out black smoke. These are especially

effective in inner city areas where activity is concentrated.

Sound is limited to occasional spot effects such as the noise of a bulldozer flattening ground. They serve no useful purpose and by switching them off the game runs slightly faster.

VERDICT

It's unfortunate the programmers of *Sim City* and *Imperium* (reviewed page 52) didn't get together. *Imperium* designer Matt Stibbe levelled severe criticism at the ST's GEM environment and devised his own routines to handle windows and menus.

The only serious criticism of *Sim City* is that it keeps the GEM environment, warts and all. The result is that windows appear slowly and mapping out roads and railways is frustratingly slow. Fortunately you get so involved in the game that you cease to notice these problems after a while.

Sim City gives you hours of

pleasure discovering the nightmare intricacy of urban planning. When you think you've got it down to a fine art, just try invoking a few natural disasters and see how hard it is to recover.

The unusual style of *Sim City* and the ease with which it can be understood are going to make it a hit with every self-respecting power-hungry gamer. Even when you manage to tear yourself away from it, you crawl into bed dreaming about municipal budgets and road building schemes. *Sim City* is so addictive, it's frightening. There ought to be a law against it – but until there is, get building!

MARK HIGHAM

GRAPHICS	7
SOUNDTRACK	6
INTELLIGENCE	7
INSTANT APPEAL	9
LONG TERM INTEREST	9
OVERALL	92%

THE FORMAT GUIDE TO BUILDING A SIMPLE CITY



More residential zones needed. Your first task is to position some housing. Select an area close to the shoreline, because land values are greater here and the property will generate more income later. The flashing power sign means the zone has no electricity.

Place a power station in a central area, far from the residential zone. In this way, power lines can be taken to other areas of the city as



the development grows.

The graph indicates which areas of the

city need to be established. At this point you need more housing and industrial sites. Place an industrial zone outside the main residential areas, remembering to take a power line out to them. Industrial zones generate pollution which scares away residents.

Now position a commercial zone close to the residential area, providing more employment for the people. With the main building blocks established, begin to build a



roadway for the people to move around.

Roads quickly become congested as the city grows so it's imperative you leave lots of space for road improvements later. Alternatively, you needn't lay roads at all, you

could use railway line instead, though it's more expensive.

As you can see, some of the residential zones look less than appealing now. Their rateable value has declined so position a few



parks in the area.

You've established the important areas of the city so now set the kind of budget likely to prompt people to come to your development. With \$20,000 under your belt you can afford to be generous – for the moment.

Sit back and watch for a while as the people come in and move around the land.

CITY BUDGET			
Tax Rate	40%	Taxes Collected	635
Amount Requested	635	Amount Allocated	635
Trans	310	Police	50
Police	50	Fire	50
Fire	50	Cash Flow	325
		Previous Funds	55,350
		Current Funds	55,350
		Go with these figures	

WARHEAD

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It is the middle of the 21st Century and Earth has been violently attacked by an insect-like alien nation, from a near star system, killing billions of humans, swiftly wiping out countries and collapsing world states, throwing the Planet into the merciless hands of a nuclear winter.

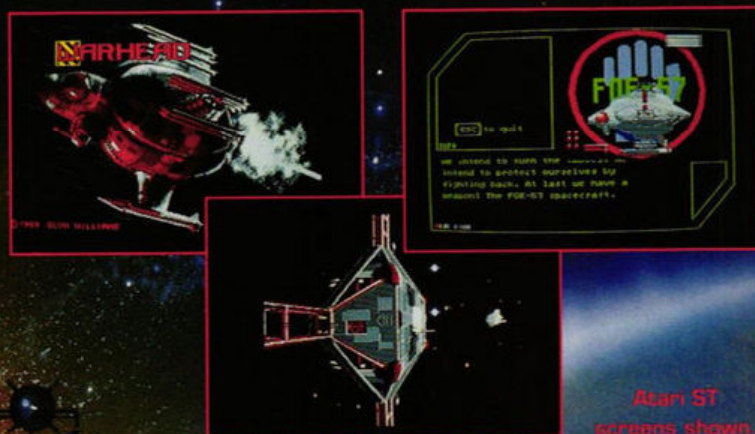
"We intend to turn the tables. We intend to protect ourselves by fighting back. At least we have a weapon: the FOE-57 spacecraft..."

As the remaining humans turn to each other for combined strength and support, the Fist of the Earth world government turn to you to lead the ultimate battle.

"The safety of the peoples of Earth rests in your hands..."

WARHEAD

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- Over 30 hours of solid play
- 39 missions of space adventure



Atari ST
screens shown



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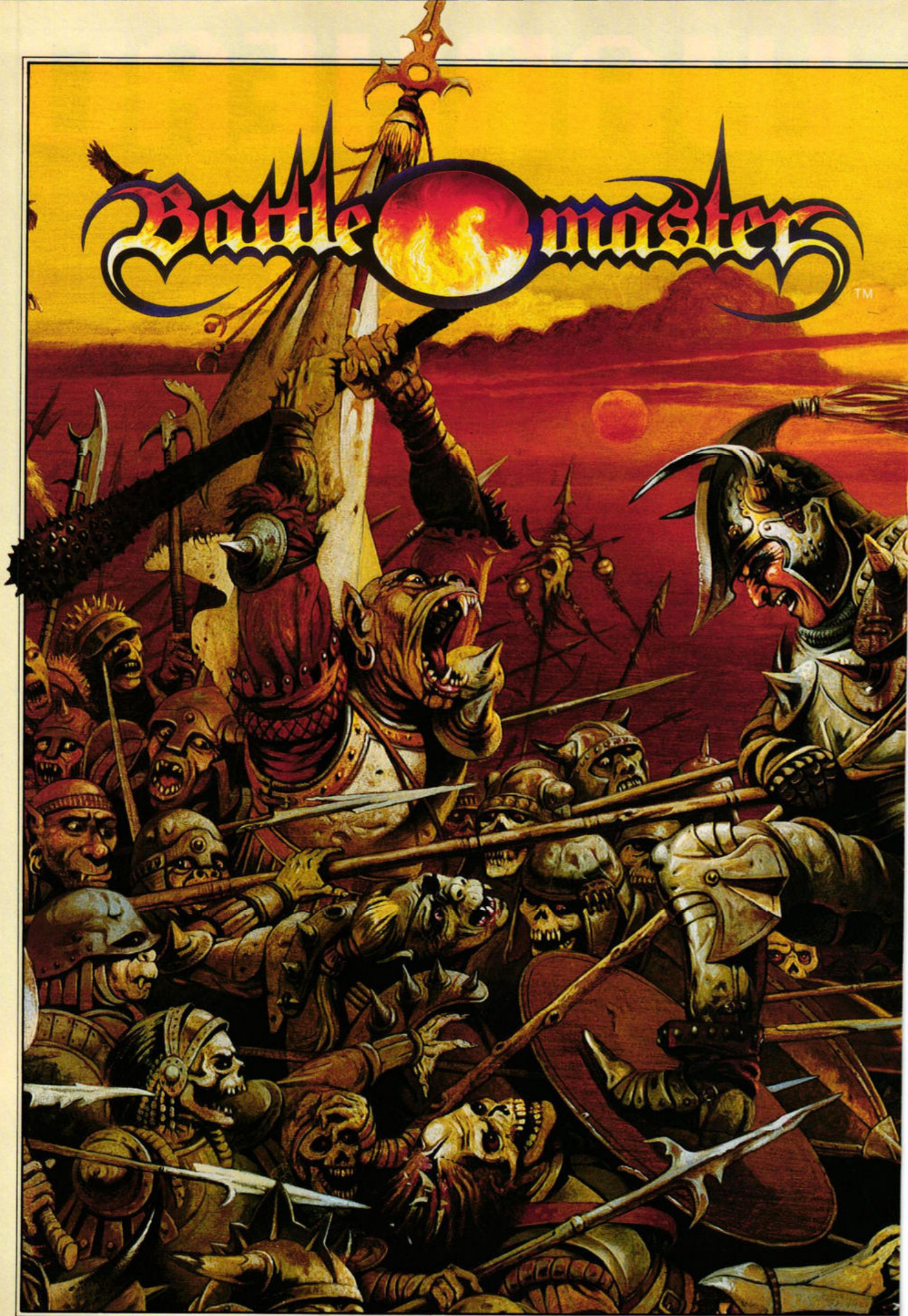
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THE SKIES ARE YOUR HUNTING GROUND

F2A RETALIATOR



"Ascending just to look at, with the fastest, smoothest, most detailed and realistic 3D graphics seen... but it's the sheer depth that makes F2A the best combat flight simulation I've seen. The wealth of missions is incredible... giving enormous testing appeal." C & VG 97%



"Think of what you get in Falcon and double it... brilliant action and a scenario depth that'll leave you gasping in awe: there are 99 different missions... Retaliator is even better than Falcon, and it's certainly much bigger... A brand new, and rather brilliant fighter/bomber simulation." Zero 94%



"Utterly mouth-watering graphics and an amazing depth of play... the best flight simulation I have ever seen (and there's nothing on the visible horizon that looks set to come close). It's not a simulation, it's an experience... Ocean's first flight sim is the best out!" Zzap 97%

YOUR NERVE
IS THE
RETURN
FLIGHT



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dragon's lair

READYSOFT/ENTERTAINMENT INTERNATIONAL £44.95

The first Readysoft release was two months ago when *Space Ace* hit the ST. Its arrival was a huge surprise not just because the graphics were out of this world, but because *Space Ace* was supposed to be the sequel to another Don Bluth game called *Dragon's Lair*. At that time, despite a ridiculously long wait, *Dragon's Lair* still hadn't been released. Now it's finally here, and sporting the same quality graphics as *Space Ace*, Readysoft have a lot to shout about.

The aim of the game is to control Dirk the Daring as he charges through a series of levels in a bid to rescue the beautiful maiden (yawn) waiting at the end. When the game starts, you're staring at the castle gates and your first task is to cross the bridge. You need to make the correct joystick moves at the right time, in a similar fashion to *Space Ace*, to escape to the end of the level.

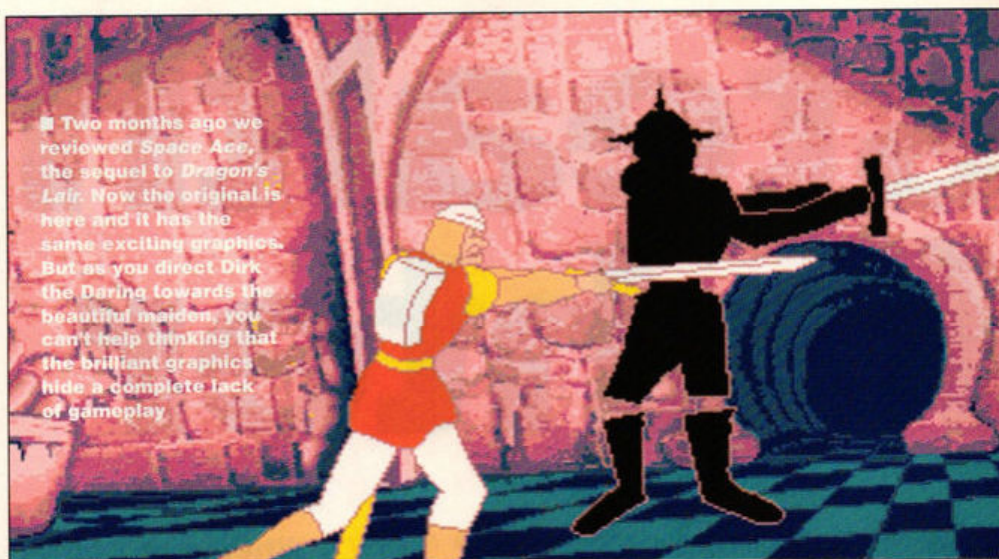
In the first scene this entails an upward flick when Dirk falls through the hole in the bridge. Hardly dramatic interactive stuff, but if you're looking for a demo of your ST's abilities, it's unbeatable.



■ The superb animation in *Dragon's Lair* masks laughably poor gameplay

Dragon's Lair lacks *Space Ace*'s polished finish. For a start, fewer joystick movements are required to win the day, and more importantly, the animation isn't as spectacular. Fewer frames are used, so it doesn't have nearly the same visual impact. Fortunately the Save Game option has been maintained which is a great help in your bid to progress.

The game can be played on any ST and is arranged on six double-sided disks. Due to the formatting of the disks, single-sided owners lose out and only get to play half of the sequences.



■ Two months ago we reviewed *Space Ace*, the sequel to *Dragon's Lair*. Now the original is here and it has the same exciting graphics. But as you direct Dirk the Daring towards the beautiful maiden, you can't help thinking that the brilliant graphics hide a complete lack of gameplay



■ Each scene requires no more than three joystick moves. There's a different ending depending on your success



Make the wrong joystick moves and this is your fate...



... but get them right and you dash through the door to level 7



EFFECTS

Dragon's Lair has little going for it as far as playability is concerned. Where it does rate highly is in the effects department; the soundtrack is superb and the visuals are so smooth and detailed that it's like watching a Disney cartoon.

Unfortunately it's a repetitive cartoon. At least in *Space Ace*, each screen was different from the last, but the only difference between some levels in *Dragon's Lair* is that one is a mirror image of the other, and the moves required to survive are reversed.

VERDICT

Dragon's Lair makes a wonderful demo, but there's so little interaction that it doesn't stand up as a game. The programmers should strip out the tedious joystick movements and release it as a cartoon. It's an appalling game and at such an inflated price it's just not worth the money. Readysoft have *Dragon's Lair II* scheduled for release at Christmas, but before they design another sprite, they had better improve their gameplay.

MARK HIGHAM

GRAPHICS	9
SOUNDTRACK	8
INTELLIGENCE	4
INSTANT APPEAL	6
LONG TERM INTEREST	2
OVERALL	43%

MICROPROSE £29.99

F-19 stealth fighter



■ Finding your way by the stars is easy if you know how



■ Dead ahead is Cassiopeia, the w-shaped constellation



■ Enough astronomy! Get the gear down... and quick!

Microprose risk accusations of jumping on the bandwagon with F-19 Stealth Fighter. Falcon, Fighter Bomber and F-29 Retaliator are only three of the current glut of military flight sims on the shelves. It should be remembered, though, that it was Wild Bill Stealey and his boys who started the wagon rolling more than two years ago when Gunship hovered into view on ST screens.

F-19 Stealth Fighter has a massive task ahead if it is to beat Falcon or F-16 Combat Pilot, both older ST sims with staunch supporters. However, like the plane it depicts, F-19 Stealth Fighter is

equipped with all the necessary opponent-bashing kit it needs.

The F-19 is a fictitious design based on information leaked from Lockheed, the American aircraft builders. Details like engine performance, flight characteristics and weapons systems are all based on realistic data making the plane a believable and exciting concept. There is also an option to fly the Lockheed F-117A, the source of the original leaked information, which has its own flight characteristics.

Regardless of the design differences, the missions are the same. The F-19 is designed for low-level, all-weather, ground strike and reconnaissance missions. The

When simulation specialists turn their attention to futuristic fighters, expect real motion sickness.

Neil Jackson straps himself in and reaches for the bag

Stealth Fighter gets its name from its odd, curvaceous shape which reduces the aircraft's reflected radar image and enables it to creep up on targets before they're aware of the threat. Thanks to its comprehensive array of air to air missiles, it also has the ability to engage any enemy fighters that get too close for comfort.

Flying the F-19 is straightforward (and with full throttle you'll see what I mean!). It's easy to chuck around and has none of that pedantic, just-twitch-your-wrist-and-crash-the-plane movement associated with Falcon. Flying feels good, especially when using the early warning systems which keep you above 200 feet and allow ample time for evasive action. Uncomplicated flying means you can get involved with the excitement of mission strategy, rather than being occupied with the job of just staying airborne.

A number of night missions are included, and the programmers have reached for the sky to make them a star feature in their own right. Not content with just changing the sky black, as most sims do, F-19 Stealth Fighter's night missions feature a star map, complete with a full moon. The map shows the night sky from your current position and revolves imperceptibly, mimicking the movement of the celestial bodies. It may seem pointless to include an astronomy program in a flight sim, but there's method in the madness. Boy Scouts among you know you can navigate by the



■ F-19 Stealth Fighter, from the Microprose hangar, is full of atmosphere, strategy and excitement. This stomach-churning flight-sim uses superb 3D vector technology and sampled sound. Hug the terrain at breakneck speed in your radar-invisible aircraft. Dodge the defences and get in quick, before they even know you're there

stars, and when your aircraft's heads-up display is damaged (which prevents the compass from working), you can, if you're bloody lucky, get home in one piece.

Another excellent feature is the weather. This has been done before, but *F-19* takes the prize for realism. Great banks of nimbostrato-cumulo-gobbedigook float above the horizon and you can fly right into them for cover.

A glorious effect occurs when you fly upwards through clouds at night and the sky clears on the topside to reveal a starlit sky twinkling in all its twee wonderfulness. Its enough to make you come over all poetic if you didn't have to keep a look out for those uncultured MiGs!

A stealth indicator shows your level of radar visibility. If you make your presence obvious, a radar will spot you. Certain manoeuvres, such as hard, banking turns, make you easier to pick up because you're presenting your broad side to the radar station. If you're spotted you can be sure that trouble (in the form of bristling, armed-to-the-teeth MiGs) is on its way to pop your cork.

Dodging the radar requires frequent alterations in course, which prevents a boring "in, drop 'em and out" approach. Waypoint indicators can be re-mapped in flight and autopilots which follow them give you more time to prepare for the dangers ahead.

For beginners there's a train-



■ Other bar-room video-games seem tame and unexciting after a gruelling mission in the *F-19 Stealth Fighter*

ing mode that enables you to fly all missions without danger, and the manual supplies a step by step guide for the mission to destroy Tripoli's defences.

There are also three modes of flight (no crashes, easy and realistic) which determine how difficult the landings are, as well as options for modifying the enemies' ability. If you're not quite up to Torn Cruise standard then you can handicap your opponents to give you a fair chance.

EFFECTS

Gunship was a game flight sim aficionados used to set their (altimeter) clocks by, but *F-19 Stealth Fighter* is even better. The game's vector-engine runs much faster than its older stable mate.

Thanks to machine code instead of C, it peaks at around 17 frames a second, more than enough to give the illusion of continuous animation without jerks (and I'm not talking Amiga owners here!).

F-19's graphics make maximum use of the ST's range of colours. Previous Microprose releases suffered from poor colour resolution because of the limitations of the machines they were transferred from. Extensive re-writing for the ST version of *F-19* has produced superb results.

In the noise department the squeaky ST sound chip has been avoided – nothing like a good dose of AY-soundchip to make you laugh and fly into a mountain. Samples are used to the full, providing that extra bit of atmosphere.

VERDICT

Don't be tempted to think *F-19 Stealth Fighter* is a Sunday afternoon joyride – because it's not. Quick wits, sharp thinking and forward planning are all essential for survival.

Since Microprose last released a 3D military flight sim, their reputation for being the best in the field has declined. Recent attempts to hijack their crown, such as *Fighter Bomber* and *Falcon*, have been shallow in comparison, offering only fleeting glimpses of what is possible with 3D vector technology. *F-19 Stealth Fighter* has enough strategy and variation to create a longer-lasting impression and proves that Microprose can still keep ahead of the competition.

Thirty quid seems a lot to pay, but the huge box is stuffed with goodies. There's a well-presented, info-packed manual, colour maps and an overlay for your keyboard, making this an excellent investment. If you have the dosh (and it's only a fiver more than most quality games), then go for *F-19 Stealth Fighter*. You won't be disappointed!

NEIL JACKSON

GRAPHICS	9
SOUNDTRACK	8
INTELLIGENCE	9
INSTANT APPEAL	8
LONG TERM INTEREST	9
OVERALL	96%



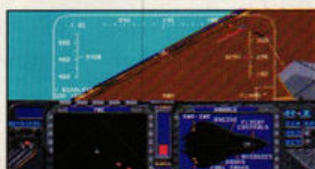
■ A low-level, high-speed pass



heading for a radar dish, while



banking over a SAM site is the



quickest way to get caught

THIS IS YOUR CAPTAIN SPEAKING...



1. Taking off in the *F-19* couldn't be simpler. Just whack the throttles fully forward, disengage the brakes and watch the HUD's air-speed indicator rise.



2. At about 125 knots with full flaps, pull the joystick smoothly back and the bird flies. Once the nose is above the horizon, let go and you climb gracefully into the sky.



3. When a safe climb is established, don't forget to retract the landing gear because high speeds can damage it and it's pretty difficult to land safely without any wheels!



4. And while you're at it, keep a good look out for those civilian 757s up ahead. They also use the runways inland and close calls tend to frighten the passengers. Over and out...

■ *Projectyle* is divided into five arenas. The centre ground features four tunnels which lead to four outer pitches, one of which is your defence zone where you must stop the ball from hurtling into your goal. Two others are attack zones where you must shoot the ball into your opponents' goal. The fourth is the frantic zone, featuring a goal for each player: this is where the action gets *seriously* manic!



ELECTRONIC ARTS £24.99

projectyle

The avalanche of footie sims this year has hidden the fact that there haven't been any unusual ball games around for ages. After the release of *Ballistix* last year, novel ball games just about disappeared. Now programming team Eldritch the Cat have come up with a ball game exploring new territory.

Projectyle differs from *Speedball* and *Ballistix* in two ways. For a start, it can be played by three people at once – two using the joystick and one on the keyboard. Secondly the control of the ball is

unlike anything else you've seen. If you're one of those players who always has trouble steering close to the ball then *Projectyle* is a dream to use. When you hit the fire button you zoom straight to the ball. For more subtle movements, such as defending the goalmouth, use the joystick.

The pitch is divided into five sections; four outer areas are linked by tunnels to a single central arena. In three of the four tunnels there is only one goalmouth, but in the fourth tunnel (appropriately called the frantic zone) there

are three – one for each player.

The objective is to shoot the ball through your opponents' goals and defend your own. The game can be played as an eight-player league or as a practice session. When time runs out on one pitch, you advance onto the next. A variety of pitches with different bounce and skid factors ensures each level is unique.

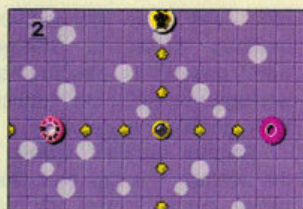
EFFECTS

Fast scrolling has always been the hardest thing to achieve on the ST. Ardent gamers should be able to remember a game called *Titan* from Titus which featured full-screen, four directional scrolling that moved at a super-fast rate. *Projectyle* not only matches that speed, it beats it!

There's even one level which offers parallax scrolling. As you hurtle across the screen a series of interlaced lines moves over the top of a metallic background distorting the field's perspective. The effect sends your eyes spinning.

VERDICT

The unusual method of ball control means that winning your first few games has more to do with luck than skill. It's only as you begin to formulate strategies – like waiting



■ The game begins with all parties eyeing each other up



■ You control the yellow player heading for goal



■ The red player shoots the ball into your goal

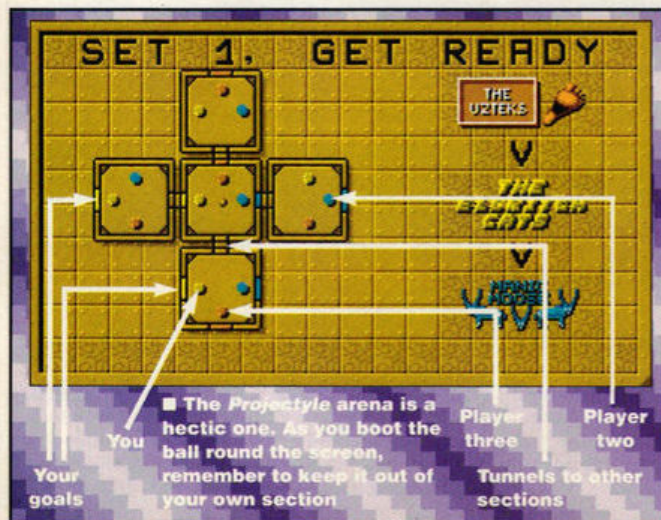


■ You get to endure a replay of your miserable defeat

in front of goal – that you begin to appreciate the finer points of *Projectyle*. This makes the game appealing, not only to those who've never played a computer game in their entire lives, but also to experienced gamers who've left their names in many a high-score table.

The game stands head and shoulders above ball games such as *Ballistix*, which never quite held your interest. Fervent addicts of *Speedball* may feel there's too much luck involved and not enough player control. Nevertheless, *Projectyle* successfully marries the magnetism of *Arkanoid* with the speed of *Titan* to come up with one of the finest ST ball games ever.

MARK HIGHAM



■ The *Projectyle* arena is a hectic one. As you boot the ball round the screen, remember to keep it out of your own section

GRAPHICS	8
SOUNDTRACK	7
INTELLIGENCE	4
INSTANT APPEAL	9
LONG TERM INTEREST	8
OVERALL	86%

KICK OFF 2

BLISTERING PACE – PIXEL PERFECT PASSING – SUPERB TACTICAL GAME PLAY

KICK OFF 2 greatly enhances the game play of KICK OFF, winner of THE GAME OF THE YEAR award in U.K. and similar awards right across Europe. A host of new features have been added to the ones that enthralled the players the world over.

Full size multi directional scrolling pitch with the players, markings etc. in correct proportion.

1 to 4 players (Amiga & ST only) option.

2 players TEAM option against the computer or 2 other players.

Hundreds of players, each with a unique combination of attributes (Stamina-Pace etc.) and skills (Passing, Shooting and Tackling etc.)

Instinctive Kick Off joystick controls to dribble, pass, shoot, head or chip a ball and do sliding tackles or scissor kicks.

After Touch controls to bend or dip the ball.

Set Piece Free kicks including dummies to chip the ball or bend the ball round a defensive wall.

9 types of corner kicks with full control of shot power. Long and short Throw In.

Team selection from a squad of 16 with substitution and choice of tactics.

League and Cup competitions with extra time, injury time and sudden death penalty shoot out.

Facility to view, edit and save the action replays and create Golden Shots disc.

AMIGA & ST £19.95

IBM (AT & XT Turbo – CGA, EGA & VGA) £24.95

CBM 64 – SPECTRUM – AMSTRAD £9.95/£14.95

SAM COUPE – £10.99/£14.99



Kit design – 6 styles and 32 colours. (Amiga & ST only)
Facility to load Player Manager teams for a single game or league game.

Load your own designed Tactics from Player Manager. Red & Yellow cards, 16 different referees, Injury time and host of features to create the atmosphere for a game which is a real fun to play.

Special Events provision to load Data Discs or Cassettes for events like World Cup, European Cup etc...

Restricted features on IBM and 8 bit machines.



AMIGA SCREENSHOT S

ANCO

SPARBLADE

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..AND JUST WAIT TILL YOU
MEET THE KIDS!



Silmarils

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You set off at the start of level one

Hold down on the fire button to increase the strength of your hit

When you encounter a line of enemies the scrolling may stop until you've destroyed them

Enemies on foot are easy to defeat, but as you move into rocky terrain they start fighting back with arrows of fire



US GOLD £19.95



dynasty wars

Last year a small corner of the arcades was dazzlingly lit up by some mind-blowing animation in *Dynasty Wars*. It was undoubtedly one of the most graphically advanced games of the year, but as Space Ace has shown, good graphics don't always mean an absorbing game. The repetitive levels and tricky firing problems in *Dynasty Wars* meant that it didn't hold the crowds for long.

US Gold obtained the licence and passed the programming on to Tiertex, the team previously responsible for *Thunderblade* and *Strider*. Overcoming the obvious technical difficulties of converting such a graphically superior game onto the ST was only the beginning of their problems. Conversions don't necessarily need to capture the bad points found in their arcade parent, so the important question was whether Tiertex could improve *Dynasty Wars'* gameplay?

The aim of the game is to control one of four warriors and battle through a series of horizontally-scrolling levels in a bid to reach the gigantic end-of-level warlord. After an interminable wait for the loading sequence to finish, you're presented with four characters from which you select your hero. The game can be played simultaneously by two players, and in this event, each player chooses a different character. Since they all have their own unique characteristics, your choice can be vital.

Your hero has the advantage of charging through the levels on

horseback, while all your foes are firmly earth-bound. Hacking them to death can be a nuisance because this isn't an ordinary horizontally-scrolling environment. You have the ability to move forwards and backwards as well as from left

but they're still relatively easy to defeat. At points in the action, the scrolling ceases and refuses to continue until you've defeated all the foot soldiers on the screen. The real monster comes at the end of the level. Like you, he rides a

Dynasty Wars coin-op so there was a lot of scope for impressive visuals in the ST game. Much of the visual excitement is built upon the mis en scene of a mythical China at the beginning of the millennium.

Although no special tricks such as a split colour palette have been used, the visuals are extremely colourful, well-defined and lively. It's a pity that the overall impression is upset by some very slow scrolling.

The music uses the ST sound chip so it definitely won't have you jiving in your chair, but it's atmospheric enough and close to the arcade sounds.

VERDICT

The arcade game was far from perfect – the action was repetitive, the movement of the horses distinctly unrealistic and the scrolling was slow. Unfortunately, the ST conversion is a faithful representation of its coin-op parent. Instead of improving the gameplay, Tiertex have made the graphics less exciting and the scrolling is even slower. What you're left with is a tedious, unexciting game. It might still be a paragon of graphic beauty, but in the addition stakes it's nothing short of catastrophic.

MARK HIGHAM



■ The arcades were wowed by *Dynasty Wars'* stunning visuals, but the gameplay was dire. The scenario is very familiar – ride through levels, hacking the heads off of enemies until you meet the end-of-level bad guy. (Left) A screen from the arcades shows how wonderful the graphics were



to right, essentially moving closer to the screen or further into the background. This primitive 3-D movement looks far from realistic, but it's an intriguing variation on the usual style.

The foot soldiers form strong front lines, fire arrows of flame and even shoot cannon balls at you,

horse, and boasts some wonderful weaponry which he isn't reluctant to test out on you. Defeat him and you're through to the next action-packed level.

EFFECTS

Some of the best graphics in the arcades were to be found on the

GRAPHICS	8
SOUNDTRACK	4
INTELLIGENCE	3
INSTANT APPEAL	7
LONG TERM INTEREST	5
OVERALL	68%

As you advance through the level you can pick up another weapon

Hang around here too long and the rocks come tumbling down

Take care of the end-of-level bad guy with a well aimed swipe

UMS II

NATIONS AT WAR

**Universal Military Simulator
was
the definitive battle strategy
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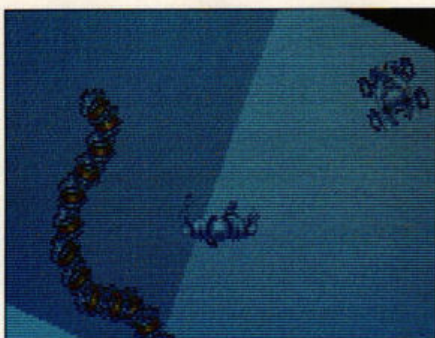
**Where it led others tried
to follow.**

**Now Rainbird are set to
re - write history
again.**

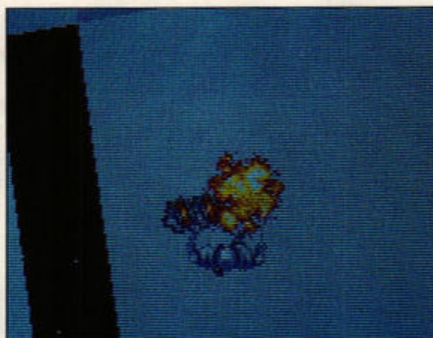
**UMS II - NATIONS AT WAR.
The whole world at your fingertips.**



MASTERS OF STRATEGY



■ All the aliens have to be destroyed, but that snake looks like serious trouble...



■ ... fortunately a few well aimed shots soon finish him off...



■ ... leaving you to negotiate the tricky platforms that link up to the next area

A series of attacks by extraterrestrials makes Earth painfully aware that its weapon system is crude and out of date. A new kind of weapon is needed, something that can outmanoeuvre and outgun the enemy.

Enter Lieutenant Kowalski, a trooper who was badly injured on patrol. Instead of treating his wounds, doctors rebuilt him, replacing his damaged body parts with prosthetic limbs controlled by computer. The idea is that Kowalski be put into action as Remote Offworld Xenoprobe (ROTOX for short), a weapon capable of challenging alien forces.

Naturally a new weapon has to be tested before it's put into service, so ROTOX is shipped to Neptune where huge test platforms have been built. Viewing the game from above, you take control of ROTOX as he's put through his paces. Throughout the test levels he remains in the centre of the screen; when turning left and right

rotox

US GOLD £19.99

the scenery rotates around him; when moving forwards and backwards it scrolls beneath him.

The test levels are split into nine areas, each populated by a set number and type of drones. Each area must be cleared of drones before ROTOX can move on to the next. This isn't as easy as it sounds, because the only way to travel between the areas is via an intricate system of shifting platforms. These platforms either move between areas, swing around a fixed point, or expand and con-

tract. Careful timing and agility are needed to pass safely from one area to another.

As the game progresses the drones become more dangerous and harder to destroy, though additional weapons such as missiles, shrapnel bombs and jet-packs can be bought to make the going a little easier.

Once all nine areas have been cleared, ROTOX is transported to the next (and more difficult) area, which simulates different types of life-or-death combat.

EFFECTS

ROTOX is a combination of sprites (for the main character and some of the drones) and solid vector graphics (for large drones and platforms). Although they look strange to begin with, the visuals really are impressive. The sprites are well-drawn and the platforms are smoothly and clearly animated. You occasionally become disorientated because some platforms have symmetrical patterns, but this makes puzzle-solving more intriguing.

The sound isn't up to scratch. Music and effects don't enhance gameplay and will undoubtedly be turned off by most gamers.

VERDICT

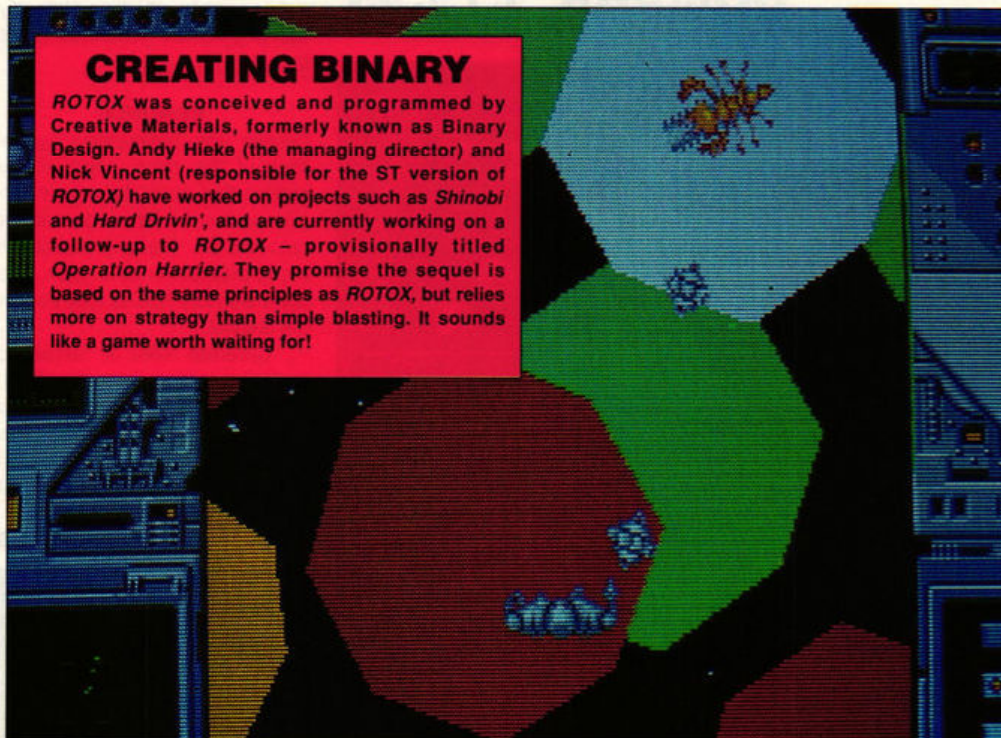
ROTOX is a manic shoot-'em-up with puzzles to solve. The blast sections are frantic because you have to keep an eye on the floor to prevent stepping off the moving platforms into the void. The puzzle element comes in when negotiating the connecting platforms. It's an infuriating exercise until you discover the correct strategy.

Even though the first few levels are pretty simple and you're furnished with a fistful of credits to continue the game, the later levels are a swine to complete, and will keep players struggling for hours.

MAFF EVANS

CREATING BINARY

ROTOX was conceived and programmed by Creative Materials, formerly known as Binary Design. Andy Hieke (the managing director) and Nick Vincent (responsible for the ST version of ROTOX) have worked on projects such as *Shinobi* and *Hard Drivin'*, and are currently working on a follow-up to ROTOX - provisionally titled *Operation Harrier*. They promise the sequel is based on the same principles as ROTOX, but relies more on strategy than simple blasting. It sounds like a game worth waiting for!



■ ROTOX is a game of frantic blasting and devious platforms. These coloured plates shift around beneath the robot's feet. They might be pretty, but one false move and it's curtains

GRAPHICS	7
SOUNDTRACK	4
INTELLIGENCE	5
INSTANT APPEAL	7
LONG TERM INTEREST	8
OVERALL	81%



■ The game starts as you select which city your allegiance lies with...

... then select the play you need to break through your opponents' ranks

... and watch as your receiver ploughs through the LA defense for six points

It's the year 2022 and advances in cybernetic technology have revolutionised the world of sport.

At the beginning of the 21st Century American football players began to replace damaged limbs with powerful prosthetics. In 2006 Paul "Bubba" Kwin was banned from the Football League for violating rule 96a concerning bionic joint repairs. Two years later the League introduced random testing for bionic violations and more players were banned. Concerned by the League's behaviour, repaired players took legal action.

By the year 2015 the League could not effectively control the game. The only option was to dis-

pand the League and set up a new governing body to cover cybernetic players. The first completely cybernetic player made its appearance later that year – beginning a new era in football history. In January 2022, the last human player, Dave "Rocket" Ralston, was killed by a face-masking violation, leaving only robotic players playing the game.

You take command of one of the new cybernetic teams, covering all the plays by remote control. Offensive and defensive plays are



■ If you don't know how to use the plays, you can confuse opponents with the names!

selected according to the situation of the game. Once play switches to the field, the player selects and controls specific droids to carry out selected tactics. As in normal Gridiron football, the ball has to be

moved a set distance in a limited number of plays. The twist is that if the offensive team fails to move the ball over the "defuse line," the ball explodes, destroying the player carrying it!

Sheer attrition takes its toll as well, causing players to fumble the ball or even give up entirely once they're worn out. You have to take care of your players because replacements are expensive and can soon deplete your funds!

EFFECTS

The ST version of Cyberball appears remarkably similar to the arcade version. The computerised options screen, the hard robots and even the ball-replacement orb have remained intact during the transition onto 16-bit.

The sound consists of standard effects utilising the ST's sound chip. The movement of the ball is signified by a harsh whine and the crashing sound of metal on metal is reduced to a dull thud. The only remission from these awful sounds is the strangely haunting female voice that calls the plays.

VERDICT

Despite the impressive appearance of the game, some of the options that made the arcade version such a hit have not made it onto the ST. The only two-player mode available is as a team, and plays aren't as fluid as they were in the original.

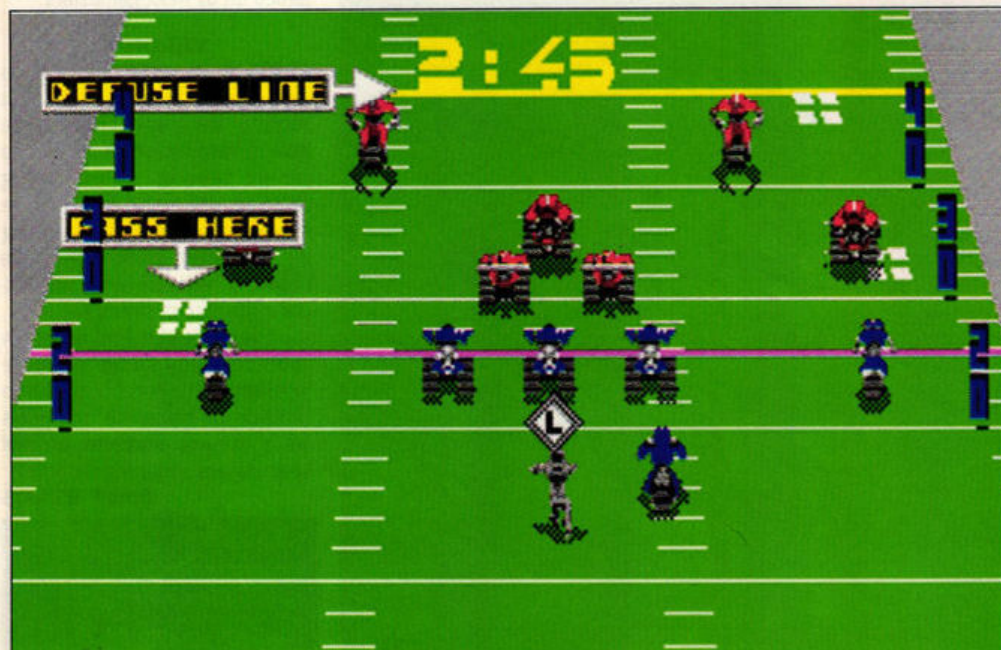
Cyberball relies on fast-paced explosive action and the hard, robotic battering should appeal to macho Gridiron fans in particular. If other "future sports" aren't tough enough for you, then work out your aggression on Cyberball!

MAFF EVANS

GRAPHICS	7
SOUNDTRACK	4
INTELLIGENCE	4
INSTANT APPEAL	7
LONG TERM INTEREST	8
OVERALL	80%

cyberball

DOMARK £19.99



■ Football in the 21st Century, where human players aren't tough enough to keep up with the action and robots rule the roost. At the start the play is mapped out, the teams crouch and the quarterback stands ready for the ball to be snapped. Get ready for some brutal kneebuckling action

WE'RE FIT, WE'RE ALIVE, BUT WE'RE NOT BACK HOME

LOST PATROL



"Polished until it sparkles,
The Lost Patrol features
animated screens the like of
which we've never seen before"
The Games Machine

1965 JUNE

by seven survivors all looking forward to a real cup of coffee, a piece of mom's cake pie, and then it happened - our chopper took a hit, our pilot managed a crash landing - but he won't be staying. "I Love Lucy" again.

Monday We've been foot-slogging a wide flat trail but it's slow, dangerous curves are flanked by impenetrable bush. I know Charlie knows we're here - that's just one thing that helps our mission - that and the psycho in my squad - I gotta figure out how it is. Before the movie factor becomes our worst enemy.

Tuesday
Wednesday
Thursday
Friday
Saturday



ocean



AMIGA
ATARI ST



IMPERIUM CONFIGURATION
Change the name of your empire or character. This also controls the game difficulty but enabling you to set maximum wealth, technology, army and empire sizes. The lower the settings, the easier the game



GAME CONTROL PANEL
This is the auto/manual area of the game. You can switch on subordinates so that Military, Diplomacy and Economics areas are controlled by a subordinate, leaving you to deal with subordinate control and politics



ALLIANCE CONSTRUCTION
You can accept alliances with other planets or make offers of new ones. When you form an alliance you need to pay an annual fee until the alliance ends. When you've constructed your alliance, you offer it to the Ambassadors, receiving their reply the following year



EMBARGO
An embargo is a trade and commerce barrier, that can be set against other empires to restrict the movement of certain commodities. An embargo can be used to build up a stockpile of rare commodities or used to influence the trade patterns of other empires



SET TAXATION LEVELS
Import and export tax levels can be set for each empire. Import tax is the share taken by the Imperial treasury from a planet's trading. Export tax is the percentage paid by the treasury to the Imperial treasury of the seller. A negative tax encourages trade between planets



TREASURY MENU
This covers general finance, providing details of the movements of your wealth and enabling you to subsidise developing planets

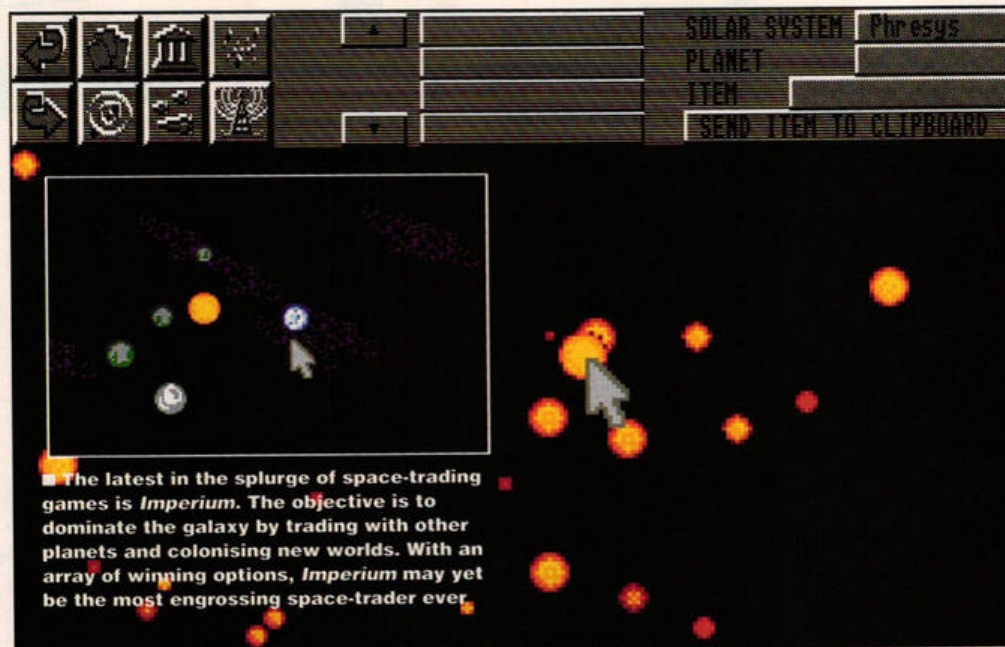


POLITICS
Every 50 years your position as leader comes up for re-election. You can select to call an election early if conditions look favourable. When the votes are counted, you need at least a 50% majority to last

imper

ELECTRONIC ARTS £24.95

Game designer Matthew Stibbe reckons space has been "well-trodden." There are heaps of space games - from shoot-'em-ups to strategies - all bidding to steal Elite's dusty crown. Mark Higham, looking forward to a 1,000 year lifespan, tackles the latest contender Imperium



The latest in the splurge of space-trading games is *Imperium*. The objective is to dominate the galaxy by trading with other planets and colonising new worlds. With an array of winning options, *Imperium* may yet be the most engrossing space-trader ever.

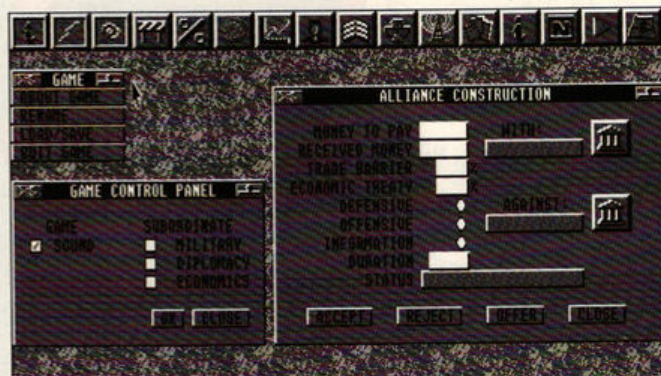
What made space-trading games like *Elite* and *Starflight* so awe-inspiring and successful wasn't their wacky journey into untamed galaxies, but their amazing attention to detail. They placed you in the role of divine leader and you could sit at your ST making life-or-death decisions. Buying, selling and blasting in a provincial solar system in outer space is a familiar scenario, recently refreshed by *Starflight*, but *Elite* has always held the crown. *Imperium* is a space-trading game in a similar mould to *Elite* and *Starflight*, and it stands out from the crowd of space-trading games because its astonishing attention to detail throws up all sorts of novel complications.

The objective is to build up supplies of a life-preserving drug called Nostrum and survive long enough to colonise new planets.

The game can be won in two ways - either to take control of all the planets or to survive for 1,000 years (the latter being the hardest of the two winning scenarios).

Imperium is played on a screen with a row of 16 icons. By selecting these icons, you make

decisions that affect the state of your empire. The game starts after your election as leader of Earth's empire. Your job is to lead your empire to a dominant position in the galaxy by employing a combination of economic controls, military action and diplomatic skill.



One full screen shows the arrangement of maps and the way boxes are represented. The user-interface is incredibly slick

ium

There is no set way to play the game. The 16 icons present you with a variety of options (see the panel) which can be used at any point to build new ships, give orders to the military, change tax levels or read news reports. A separate map screen shows the galaxy and offers additional information about the planets in view.

Talk to game designer Matthew Stibbe and he explains that *Imperium* scores over games like *Elite* and *Starflight* because it doesn't place you in the position of being the divine leader. Every 50 years of game time you need to endure an election and democracy can soon land you out on your ass: end of game.

To ensure election success you need to use your finances to organise a decent campaign. Using one of the icons you decide how much money to put into the campaign: the more money you put in, the greater your chance of success. If you make stupid decisions which could bankrupt your empire or deplete valuable resources, the people can push through a vote of no confidence and once again the game ends.

EFFECTS

Massive amounts of time and effort were invested in the user interface. As you click on icons, windows appear offering information for you to edit. Scrolling lists, sliders, text fields and buttons are all available and operate so quickly that *Imperium* is a dream to use.

As a strategy game it doesn't offer much in the visual department. Aside from a map screen which presents a revolving view of the galaxy, the graphics are limited to windows showing characters faces and the occasional planet.

Where *Imperium* scores highly, though, is in its support for monochrome monitors. It becomes a little confusing distinguishing planets on the map screen, but in every other area the graphics are more detailed.

Sound can be switched off, but if you leave it on you hear a fanfare of trumpets every time you look at the news reports.

VERDICT

Although the game is split into three very distinctive areas – political, economic and military, these are all inextricably linked so that

the smallest movement in one area affects something else in the other. Add a complex network of inter-planetary trade on top of this and you get the feeling you're involved in a massive labyrinth of carefully balanced interwoven relationships.

If any criticism is to be levelled at the game then it has to be that it's difficult to find your way around at first. A tutorial section in the manual gives you some help completing your first turn, but it gives no indication of a long-term strategies. A comprehensive tutorial section would certainly have been a help.

The beauty of *Imperium* is its range of strategies. Similar games tend to take a linear approach that under close scrutiny reveals only a limited number of different ways to win. In *Imperium* the possibilities are limitless, with all manner of decisions leading to success – or failure. This makes it a great challenge and well worth the enormous investment of time that it takes to complete.

MARK HIGHAM

■ *Imperium* is one of those few games that works with both colour and mono monitors, and it's therefore set to become a "mono classic." Well done EA!

GRAPHICS	5
SOUNDTRACK	2
INTELLIGENCE	8
INSTANT APPEAL	7
LONG TERM INTEREST	9
OVERALL	87%

TAKING YOUR FIRST STEPS IN IMPERIUM

■ In one game turn you aren't going to proceed very far, but this step-by-step guide does give you some idea of how *Imperium* is played.



■ Click on the map icon to call up the galactic map. On the map screen you see all the solar systems and from here you can obtain information about your empire. Here, Earth has been selected. We can copy the information into the clipboard.

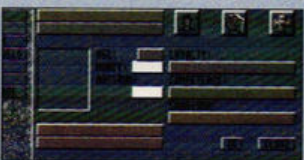
Empire Throgon welcomes you as the new planet leader of Earth.

■ Now click on the news icon and obtain a news report:-

■ To find out more information about Earth, go to the clipboard and select the REPORT option.



■ Give orders to your fleet by clicking on the military button. At the start of a game no fleet has been selected so you need to choose a home fleet.



■ Now give them orders by selecting from a list of possible orders. Here, you've chosen to move to a certain place, in this case, Earth.



To end your turn, click on the Next Turn icon. In this case the game advances forward one year. All the other planets make various decisions in that time, trading goods, moving and formulating strategies.

LEISURE



SUBORDINATE DISPLAY

Subordinates act as your eyes and ears, reporting back to you with valuable information. Each subordinate has a level of competence, trustworthiness and charisma. Different jobs require different types of subordinates



MILITARY

This covers all aspects of ship, troop and fleet construction. Ships are built on a special deployment planet and once constructed join a pool and await inclusion in the fleet



CREATE ARKSHIP

When it comes to moving commodities or people between planets you need to build an ark ship. Although it's a slow vessel, it's capable of transporting massive amounts of cargo



CREATE ANTENNAE

This is a communications device providing information about other planets. This information is distorted as planets fall out of the catchment area of the antenna



REPORTS

These enable you to discover extremely useful information about planets or empires and the levels of Nostrum in your possession



CLIPBOARD

Information can be pasted onto the clipboard and then recalled later. It's used to transfer information between the map screen and the main screen



NEWS

News reports keep you informed of the state of the solar system. Diplomatic messages from Ambassadors or news of major disasters are all filtered through to you in this way



MAP

The map shows the entire galaxy from which you can select solar systems, planets and fleets



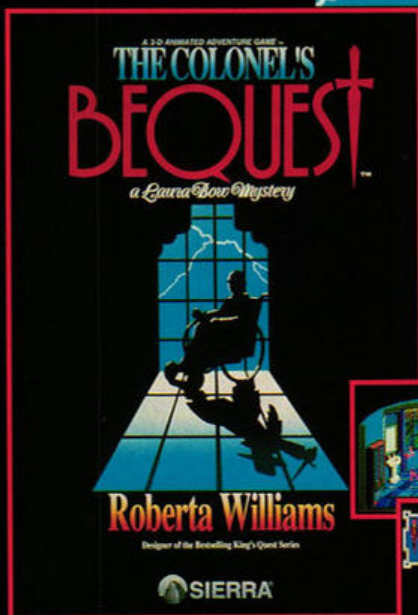
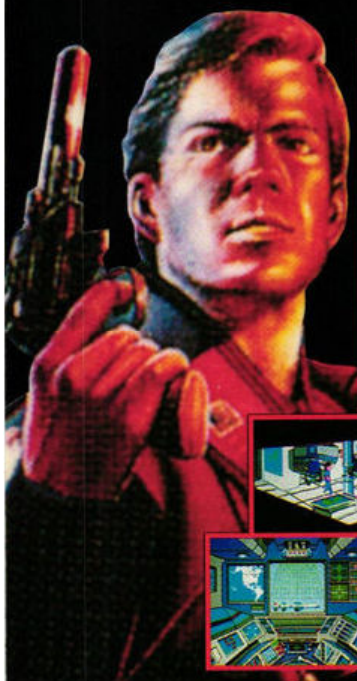
GAME TURN

A game turn typically lasts a year, but you can increase this up to a maximum of ten years

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Military research has discovered a new method of space travel which promises an end to the conflict that's been raging on Earth for the past twenty years. The governments involved have decided to end the conflict to form the United States of the Earth, an organisation dedicated to furthering the human race's occupation of outer space.

The United States of Earth decide that the federation is a new



■ Blast your way out of the shuttle before you're caught

beginning and symbolically start a new calendar. Things progress well until Federal Year 129 when the warlike Horgants emerge and begin to attack colonists settling in new worlds.

Using a new type of bacterial weapon, the Horgants manage to wipe out entire planets with a deadly virus. A treaty is eventually signed to put an end to the conflict, but the Horgants maintain an aggressive position by intimidating outlying USE settlements.

Meanwhile, USE scientists continue work on the revolutionary new teletransporter which will enable troops and colonists to travel between different planetary systems in a matter of seconds. The transporter should allow the United States of Earth to outnumber the raiding Horgant forces.

To enable the developers to work on the system away from

prying eyes, a hidden planet must be used. The chosen planet is Ipsos III, a dark, unforgiving world supposedly unknown even to the marauding Horgants.

Unfortunately the two research bases on Ipsos III haven't sent reports for some time and fears that the Horgants have infiltrated the base and found the secret teletransporter information are rife.

You are USE agent YG 30 and you travel to Ipsos III to retrieve the data banks from the research computers before the Horgants find them. Unfortunately, the Horgant presence on the planet is heavier than assumed. The ship in which you are travelling, the Centaure, comes under attack. Most of the crew are killed and the ship is badly damaged.

This is where you take control of the mission, using a pointer to search the immediate vicinity. When the pointer moves across an item of particular interest, clicking the left mouse button informs you what it is. Another

click picks up an object or allows access to another section of the game. Items that have been picked up may be used in other locations, but the consequences can be dangerous, so a save game feature has been included for those disastrous wrong moves!

EFFECTS

Final Command's opening tune is a lightweight affair that fails to create the sinister atmosphere needed. The game itself, however, has a wealth of sampled music and effects which combine with the murky graphics to create a suitably oppressive sci-fi atmosphere. The screens are all well-drawn and each area has a distinctive feel – from the broken down research base to the weird Horgant space shuttles.

Surprisingly, the programmers

■ A desolate scene on the surface of Ipsos III sets the tone for the futuristic adventure *Final Command*. Your task is to retrieve missing data banks before they fall into enemy hands



have avoided the "Aliens rip-off" approach and produced a unique and enjoyable playing environment.

VERDICT

Despite initially appearing confusing, the game isn't at all difficult to get to grips with. The pointer system is easy to use and draws you deeper into the adventure one step at a time. Most of the puzzles require a great deal of thought, though at times of dire frustration there's always brute force – often more useful than you might think.

The only problem with the game is the way separate locations are loaded from disk – even parts of the same room require some disk access. This is annoying when you have to travel through a series of rooms to get to where you want to be.

This quibble aside, *Final Command* is an involved and intriguing adventure that has the kind of decaying, doom-laden atmosphere that sci-fi buffs and ardent adventurers revel in.

MAFF EVANS

final command

UBISOFT £19.99

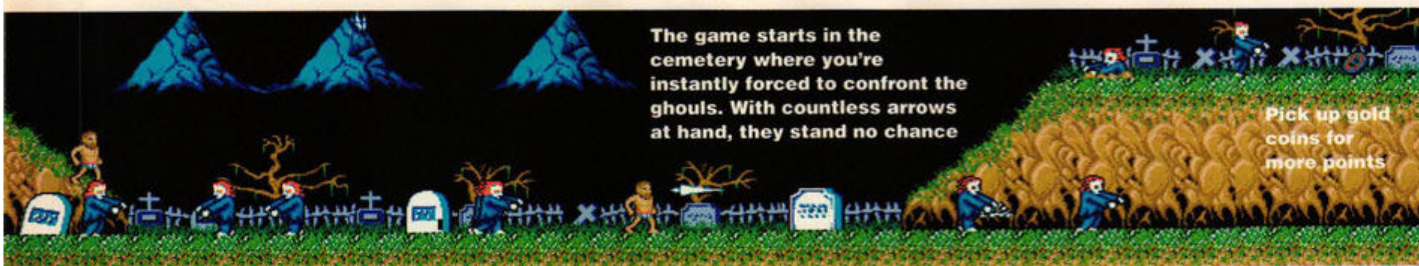
GRAPHICS	8
SOUNDTRACK	7
INTELLIGENCE	7
INSTANT APPEAL	6
LONG TERM INTEREST	8
OVERALL	82%



Search the body for a teleport pass...

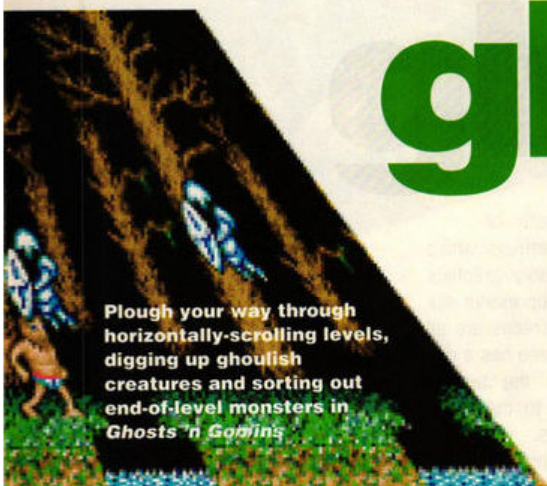
... enter the correct coordinates on the keypad...

... and enter the pod to transport yourself



ghosts 'n goblins

ELITE £19.99



Arcade fans were first swept up by the *Ghosts 'n' Goblins* phenomenon in 1986. Three years later, its shelf life was over and Capcom brought out a follow-up called *Ghouls 'n' Ghosts*. Since then US Gold have obtained the licence for the follow-up and released one of the best ever scrolling adventures. Elite obtained the licence for the original at the time of its release, but company problems delayed the ST conversion until now. US Gold's success with *Ghouls 'n' Ghosts* has left Elite with egg on their face.

Although *Ghosts 'n' Goblins* is dated, its scenario still has potential for some clever graphics and sound effects, so have Elite delivered the goods?

The objective is the usual old bunkum about rescuing the beautiful princess from the clutches of the demonic Overlord. This mind-boggling feat takes place in a graveyard wriggling with an inexhaustible supply of creatures who crawl out of their holes to cause you grief. These creatures become even more malicious toward the end of each level where you encounter an oversized,

power-hungry monster who gobbles up your hammers and knives as if they're Smarties. The key to defeating these awesome beasts is simply to work out the best place to stand.

You begin armed with a healthy supply of knives, but as you proceed you have the opportunity to pick up a variety of other weapons. Since each new weapon replaces the current one you need to be careful not to lose a trusty weapon by picking up something completely useless.

Most of the action takes place in horizontally-scrolling levels, but there are also platforms to climb. At points in each level, the action freezes and additional graphics and backdrops are loaded from disk before you can continue.

EFFECTS

This sort of game depends on graphics and absorbing sound effects for survival. Sadly, *Ghosts 'n' Goblins* looks like its taken its last breath. The playing sprites and backdrops are small, colourless and without detail. They lack subtleties of shading, and although their movement is smooth, they're far from impressive.

It's not all bad news though: the biggest challenge to any ST horizontally-scrolling game is the smoothness of the scrolling and in this department there's no disputing that the game scores highly. However, it's little compensation for poor graphics and equally tedious sound effects.

VERDICT

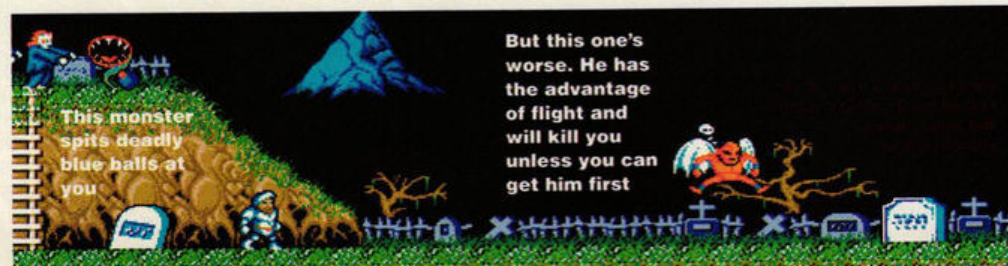
It's inevitable that *Ghosts 'n' Goblins* is going to be compared to US Gold's conversion of the sequel, and the programmers must be incensed that their rivals made such a good job of it. Unfortunately they only have themselves to

blame. Even though the arcade version's graphics were hardly spell-binding, that's absolutely no excuse for ignoring the full potential of the ST.

Some games that spend a long time in the pipeline are often well-researched and developed, but when it takes three years for a game to be released you start becoming suspicious. And rightly so. ST games are improving so fast that if we have to wait that long for any game, it's an anachronism the day it appears. It's easy to forget just how far ST games have come in such a short time until you see a conversion of a relic from 1986 like this one. If it had been released 18 months ago it would have been praised; now it's too little, much too late.

MARK HIGHAM

GRAPHICS	6
SOUNDTRACK	4
INTELLIGENCE	4
INSTANT APPEAL	7
LONG TERM INTEREST	6
OVERALL	69%



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PALACE



starblade

SIMARILS/PALACE £19.99

After the intense strategies of *Imperium*, relax with *Starblade* and take a 3D trip around an alien-infected universe. This is the latest in a long line of space-trading games, but this time the emphasis is on manic joystick skills rather than long-term planning.

The scenario is the usual dramatic nonsense: the human race has been decimated by an evil hag called Genolyn. She is about to spawn a legion of super-warriors and you need to track her down by finding a series of disks which reveal her location and kill her before she breeds.

You explore the universe in your trusty space cruiser, go into hyperspace mode, and land on other planets. This feat is compli-

cated by aliens who attack you unless you come equipped with the necessary weapons.

Before you explore other planets you need to test the atmosphere and decide whether a space suit is necessary. The suit is required when a planet doesn't have an oxygen atmosphere. The suit only contains a limited supply of oxygen, so it's best not to wear it unless you need to.

The suit and other goodies, including a laser gun and replacement circuit boards, are found in compartments located around the ship. Unfortunately, because the cruiser is rotating, just moving around can be a major headache. Although this might sound intriguing, in practice it's maddeningly frustrating.



Before you stumble blindly round the universe, check the atmosphere of the planet you're heading for...



... then equip yourself with the necessary weaponry and suit for the job. Here you have a laser gun and magnetic card at your disposal

EFFECTS

Starblade is played in a resplendent 3D environment. Your character moves in a realistic fashion and each time his foot hits the floor you're treated to a crisp heel-click, similar to the hero of *Impossible Mission*.

The game is played on static screens, but the backdrops are varied and extremely well-detailed. As you explore your space cruiser and collect weapons or don your

space suit, a different graphic appears, giving the game an absorbing atmosphere.

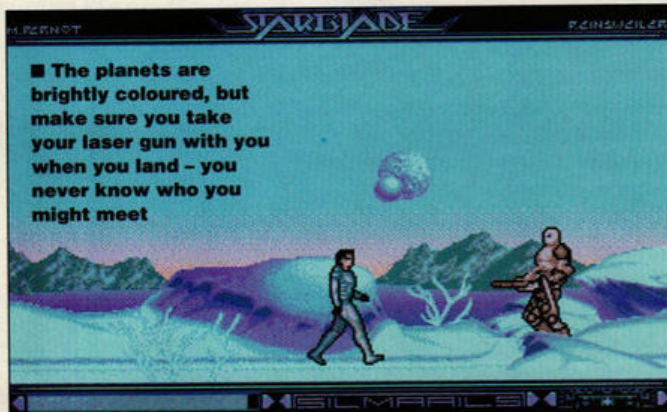
Sound consists of the occasional spot effect, which won't exactly set the world alight, and sampled intro music.

VERDICT

Drop *Starblade* into your disk drive, switch on your ST and *wham!* – the first thing to hit you is the size and life of the visuals. The backgrounds are detailed and your hero moves so smoothly that it's easy to fall into the trap of thinking this is a great game. Unfortunately, once you've played it for a while you discover that the action is extremely limited.

When you get as far as finding and landing on planets, you realise that there is very little to do, particularly if you make the trip without all the necessary weaponry. *Starblade* takes that all too-common route of trying to hide poor playability behind expert visuals.

MARK HIGHAM

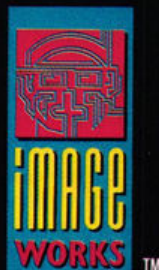
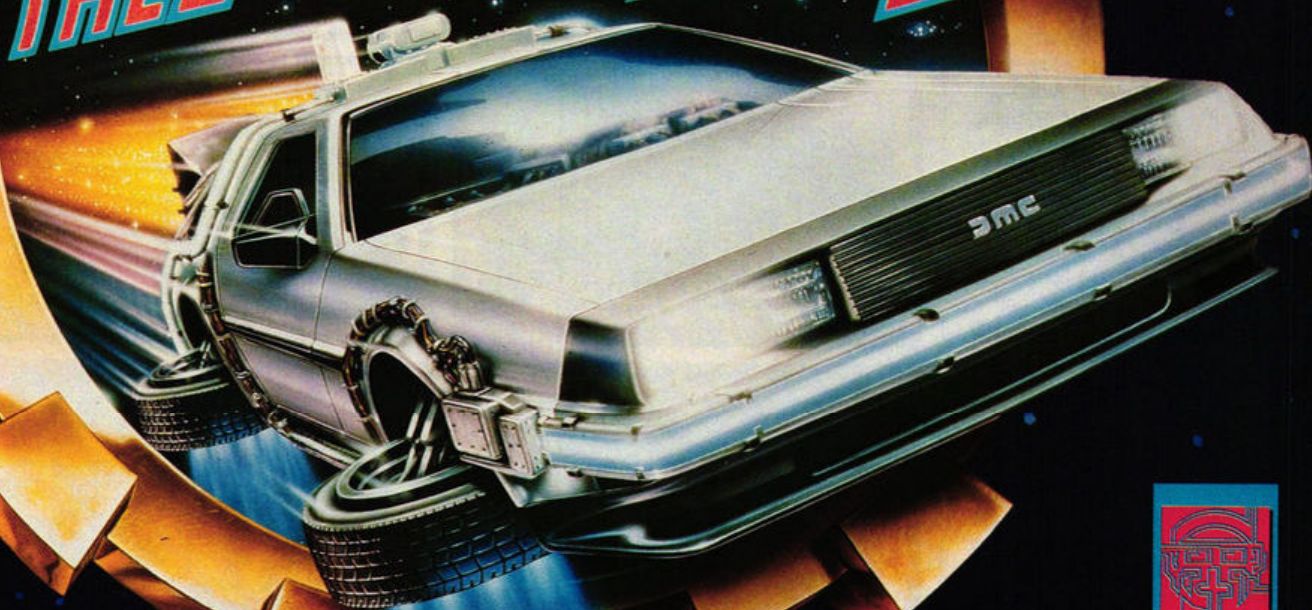


GRAPHICS	8
SOUNDTRACK	4
INTELLIGENCE	3
INSTANT APPEAL	7
LONG TERM INTEREST	3
OVERALL	51%

COMING SOON...

BACK TO THE FUTURE II

/// PART II



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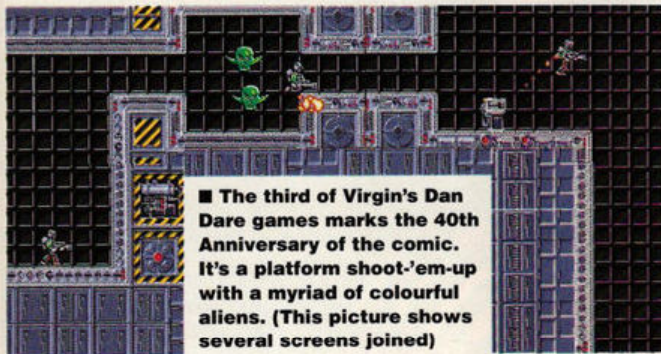
Atari ST

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VIRGIN MASTERTRONIC £19.99

dan dare III



A stubborn cult following has kept Dan Dare, the Eagle comic-strip hero, alive and kicking for the last 40 years. Virgin Mastertronic have released two Dan Dare computer games – the first was a traditional adventure and the second a juicy money-spinning shoot-em-up.

Dan Dare III, a celebration of the hero's 40th anniversary, is in the same mould as its immediate predecessor. It's a multi-directional scrolling platform shoot-em-up in which you blast your way through level after level of mindnumbing action.

The game begins with Dan trapped by the evil Treens. After knocking them unconscious he escapes, finds a jet-pack and shoots off towards the hangar. He discovers a ship there, but it doesn't have any fuel. The objective is to search the Treen empire for enough fuel to fill the ships' tank and then blast into space.

Using the jet-pack you can fly around the Treen stores to collect additional weapons. As you fly, your energy resources deplete, giving you only limited time to stay in the air. All manner of weapons are on offer from homing missiles and bouncing bombs to energy shields and the occasional nuclear device.

Dan Dare is divided into a series of multi-directional scrolling stages and at the end of these you confront a large end-of-level guardian. These can be either large Treens or gun emplacements. When you successfully destroy them you pick up a pod. When you discover the large transporter, this gives you access to the next level.

In later levels the guardians can be found sat in front of the fuel cannisters. Since each cannister

contains ten pounds of rocket fuel they're of vital importance to your mission. If you can kill the guardian and pick up 50 units of rocket fuel you can rush back to the stores and climb aboard your ship.

EFFECTS

The playing sprites fail to capture much of the excitement of the comic strip. The movement isn't

composed of enough frames of animation to appear realistic. It's hard to see any resemblance to Dan Dare once you get past the loading screen. Even the hero's famously implausible eyebrows don't get the attention they deserve.

VERDICT

In an industry flooded with quality shoot-em-ups it's careful attention to detail which makes the good ones noticeable, but Dan Dare's playing sprites are small and poorly animated and sound effects sporadic.

The worst problem, however, is the difficulty factor. Working your way through the levels can make you a victim of that painful gamer's complaint – joystick finger.

Within minutes of venturing into the game, you're maliciously killed

off by some green fiends who look like they've climbed out of *Better Dead Than Alien*. In no time, your fingers are aching with cramp and you realise you've hardly progressed anywhere.

If you're a masochistic shoot-em-up addict who zipped through *Xenon II* with one eye closed, Dan Dare III is going to be a challenge. But for the discerning player who wants quality effects and a slowly increasing difficulty level, there are many better games on the shelves.

MARK HIGHAM

GRAPHICS	6
SOUNDTRACK	4
INTELLIGENCE	3
INSTANT APPEAL	5
LONG TERM INTEREST	7
OVERALL	63%

■ Complete the level and you go through the warp zone



■ You look down the barrel of a gun emplacement towards the end of level two...



■ Score

■ Remaining jets

■ Fire power

■ Flying energy

■ Remaining lives

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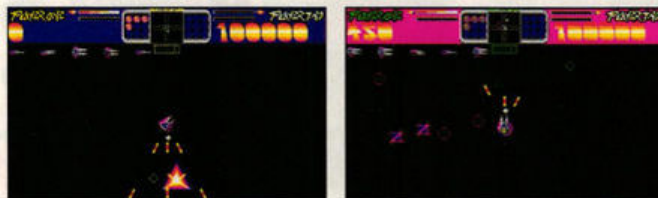
ATARI/ARC £19.99

One glance at the screen-shots and it's obvious that *Photon Storm* is another *Oids* clone.

Your task is to control a small spacecraft, blast all sorts of freaky aliens and pick up globes of plutonium. Some aliens move so quickly that you need to watch an on-screen scanner just to know who's approaching so you can be ready to hit the lasers as they whizz past.

Two markers are also located on-screen and if you steer towards them, one leads you to an enemy Battlestar and the other takes you to the Stargate. When you've picked up enough Plutonium, found in some of the space craft, the Stargate opens for you to pass through. Use the mouse to steer carefully through a hole in the stars. At the end of this challenge you pick up a bonus and progress to the next level.

Keyboard control makes steering extremely difficult in many *Oids*-style games, particularly when the screen starts filling up with aliens. *Photon Storm*, however, is mouse-controlled; press the right mouse button to accelerate and the left mouse button to fire lasers. Steer-



■ As you whizz round Jeff Minter's crazy coloured starfield, you encounter some wacky aliens. The stars and squares stick to your tail until you've blasted them. So go on then, blast 'em!



■ Battle it out for space supremacy in this *Oids*-style game. Shoot the fiendish aliens, pick up the plutonium, then head through the warp zone to the next level

ing and firing are a real delight in *Photon Storm* because you can shoot forward in one direction and blast at everyone else in another.

The game, written by Jeff Minter, is stuffed full of colourful, frenetic visuals. The sound effects, however, are merely functional, simply providing a warning of approaching craft.

VERDICT

The scenario and style of *Photon Storm* are so frayed that there are times when the game threatens to fall apart at the seams. It's amazing that the graphics and collectable bonuses still manage to rescue it from a shoddy obscurity. But when the aliens start coming at you so fast you can hardly see them, there's no denying this is still a great challenge and lots of fun to play.

MARK HIGHAM

GRAPHICS	5
SOUNDTRACK	3
INTELLIGENCE	2
INSTANT APPEAL	6
LONG TERM INTEREST	4
OVERALL	51%

It was late '87 when Infogrames released *Bubble Ghost*, but there's little in this sequel to justify a two year wait, except a few new levels.

The objective is to blow a bubble from one side of the screen to the other, but it's a lot harder than it sounds. You use the mouse to move the ghost around the screen and the Shift key to make him blow the bubble. You have to be careful directing the bubble across the screen and avoid touching walls or obstacles.

As the game progresses you need to negotiate increasingly difficult obstacles, from candles

bubble+

INFOGRAMES £19.99

which need to be blown out to an electric fan which blows your bubble towards a set of knives.

VERDICT

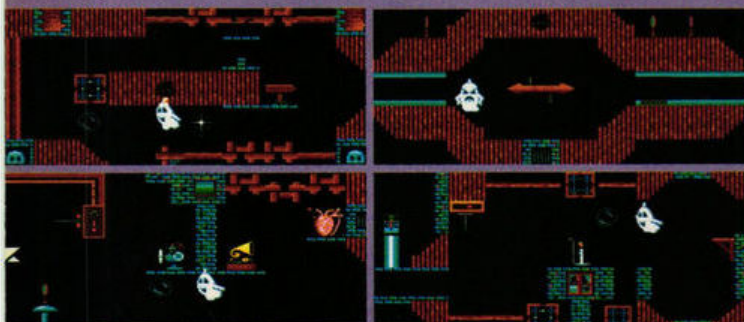
Unfortunately the game offers you practice on any level, from one to 35, which essentially acts as a cheat, taking away the excitement

of seeing how the levels change and the reward element for successfully completing a level.

Bubble+ is far from being 16-bit state-of-the-art, but with amusing graphics and tricky levels it makes a welcome change from run-of-the-mill shoot-'em-ups.

MARK HIGHAM

GRAPHICS	6
SOUNDTRACK	2
INTELLIGENCE	5
INSTANT APPEAL	5
LONG TERM INTEREST	3
OVERALL	38%



■ Use the ghost to blow the bubble across the screen, avoiding the obstacles



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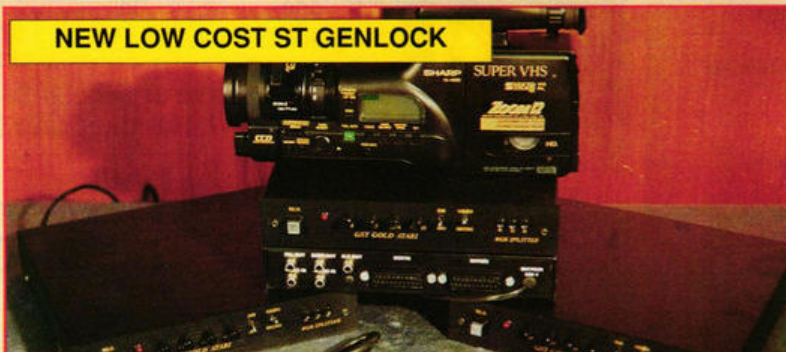
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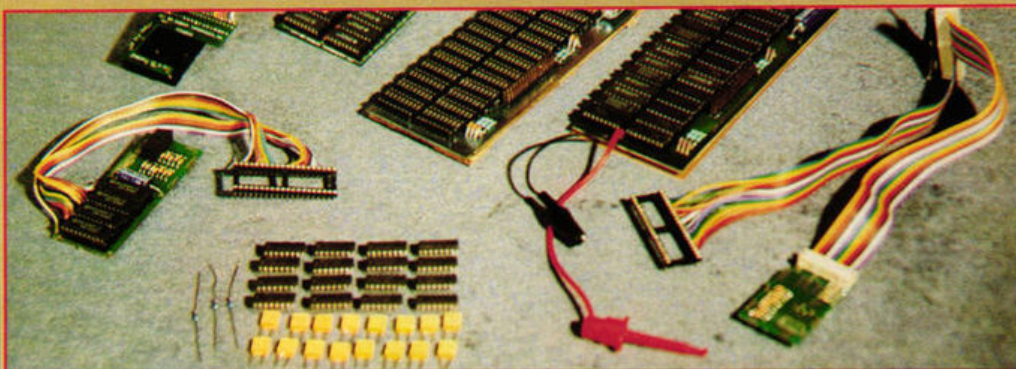
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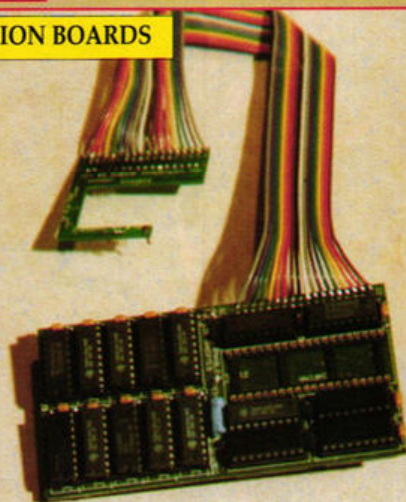
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the toyottes

Black rats aren't generally regarded as cute creatures, but *The Toyottes*, a French cartoon strip by L.M. Carpentier, depicts them as cuddly little fluffballs. If you've never heard of them before, it's a little underwhelming to find they're now the subject of a computer game, but this makes no difference to the enjoyment of the game itself.

The Toyottes live in an underground world, too scared to venture to the surface for fear of being munchied by monsters. The ruler of the rats is a tyrant whose imbecilic offspring, Barnaby, has disappeared while playing ball. The King sends Cyprian, a rat minion, to bring him home.

As Cyprian, you are sent to the strange world of the surface. You materialise on-screen in a crazy, Heath Robinson-type nightmare, with pipes, ladders and pulleys everywhere. Your first task is



■ Take Barnaby to the Throne Room when you catch him

to locate Barnaby's ball and this search involves climbing ropes and crossing chasms on planks.

Your mission is made more difficult by the vast number of monsters who attack at every opportunity, creating wonderful cartoon fight-swirls. Fight them by repeatedly hitting the fire button, and eventually they disappear (for a while), leaving you free to replenish your strength by eating the cheese lying on the floor.

Your best defence however, is to be nimble and avoid conflict wherever possible. To this end, the quickest way of passing a hungry



■ The Spider lurks behind the pipes, blocking your way out

gorilla or a barmy bat is to take the tube – literally.

A network of pipes, with openings poking through floors and hanging from ceilings, covers the entire area. Clamber onto a box and, like a rat up a drainpipe, you're gone. Only a bulge in the pipe shows your presence as you whizz through rooms safely passing the nasties. It's wise to use the radar (at the top right of the screen) at this point, because you're not alone in the tunnels. The Pipe Cleaners, who also zip about the network, eat rats! Turning tail and fleeing is your only chance.

As if this wasn't enough to contend with, the presence of Guardians who block access to areas of the maze make life even harder. To get past them, you must give them the objects they demand from you which are scattered around the platform.

Occasionally you can sidestep them by entering a nearby doorway which zaps you to another location, but this can make things even more confusing till you work out which ones take you where.

EFFECTS

The Toyottes has pleasing visuals; front-end animation is interesting and so is the high-score table which features a slime-dribbling beastie on a pipe. Within the game, some of the characters are on the small side and the scrolling is not of the highest calibre, but the giant guardians are amusing, and feature some of the dumbest, cutest-looking horrors seen in a long time.

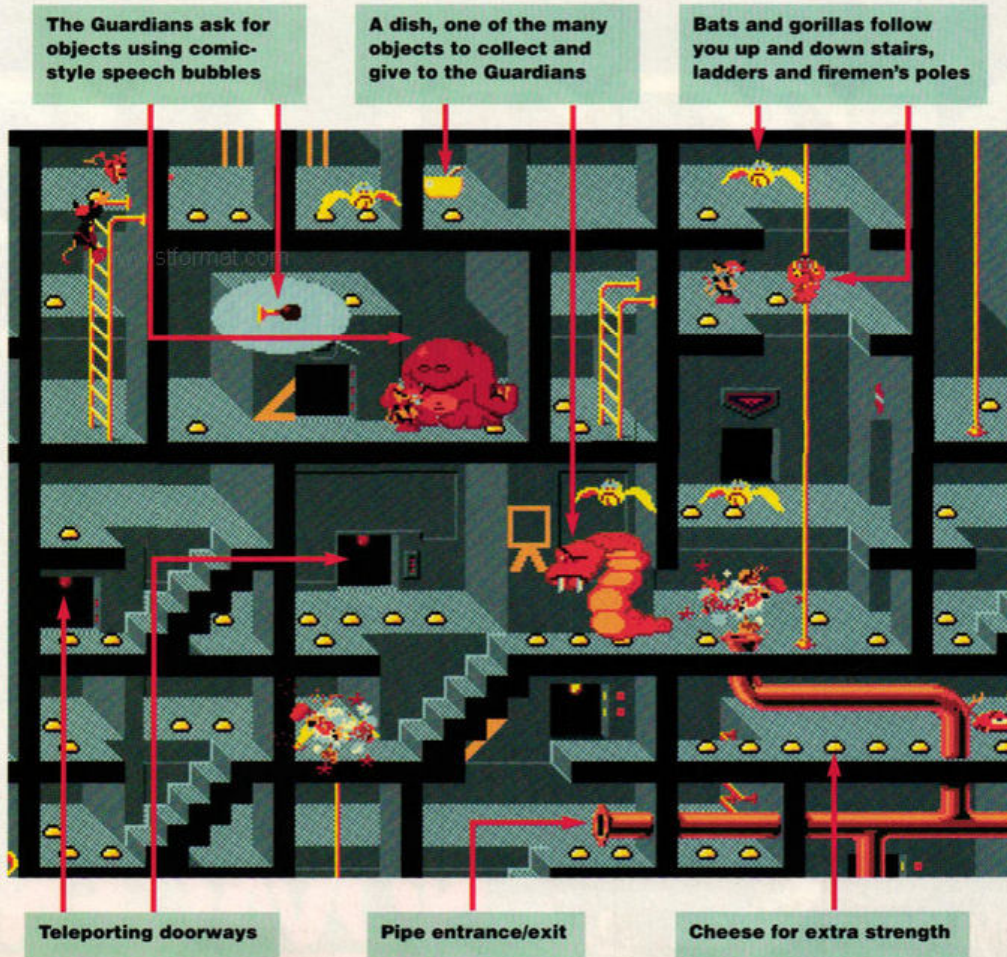
The opening title music is another of those infuriating tunes which you happily listen to for ten minutes before realising you're seconds away from madness. Sound effects are much better, featuring sampled squeaks, growls and groans which fit the cartoon style perfectly.

VERDICT

As a cute platform game, *The Toyottes* is a fair effort. The pipe gives the game its addictive quality and proves that licenses alone don't make old-style games good.

It's possible to bumble through the first stage, taking in the scenery without knowing where you are, but to complete the entire game requires a lot more concentration and commitment. The frustration caused by repetitive thrashings might make that a tall order. It's a good giggle and worth buying if you've cash to spare.

NEIL JACKSON



GRAPHICS	8
SOUNDTRACK	5
INTELLIGENCE	2
INSTANT APPEAL	8
LONG TERM INTEREST	7
OVERALL	81%

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chronoquest II

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Time is the essence of the *Chronoquest* series. In part one you discovered your murdered father's time machine, Explora, and used it to travel through several temporal planes to find his killer. With that task completed – you did finish *Chronoquest I* didn't you? – you're all set to return to 1922.

Unfortunately, Explora's engine overheats and burns up so much fuel she's unable to complete the journey. Instead the machine transports you to the deck of a ship in an era completely alien to you.

Checking Explora, you find her tank empty and set out on to seek sufficient metal to fuel the trip back home. Luckily, only one location away lies an anchor embedded in the sand of an idyllic beach. However, fuelling Explora with the anchor only takes you so far through time, quickly bringing you to the conclusion that more than one time zone requires exploration if enough metal is to be found to reach the 1920's.

In fact there are 13 time zones to "click" your way through – "click" because *Chronoquest II*, like its prequel, is fully icon driven – and every nook and cranny of every zone needs exploring to ensure you miss nothing that may help you return safely.

The screen displays a brilliant, beautifully detailed graphic of your current location complete with interactive characters and objects. Several

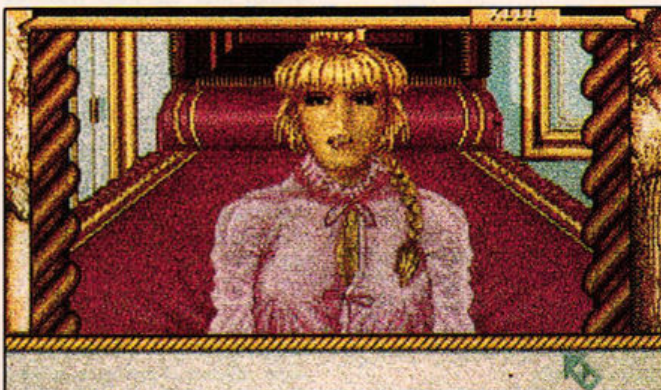
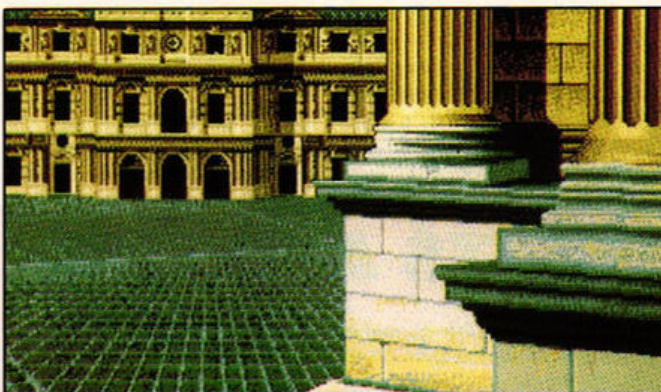
scenes feature animation but it's not exactly breathtaking stuff.

Below the graphic window is a panel for text messages. Character speech is vocally synthesized as well, but it requires so much extra disk swapping that you have the option to turn it off. The musketeer's accent is so OTT that you

need to refer to the text to understand him anyway.

At the bottom of the screen sits the icon panel with options such as Talk, Listen, Give, Get, Drop, Use, Examine, Retreat and Advance. There is also an SOS icon through which Save, Load and Exit are accessed.

■ Two pretty scenes from the second in the *Chronoquest* series



The first attempt at *Chronoquest II* may be perplexing, even for hard-bitten adventurers, because the control system takes a bit of getting used to. Pointing and clicking on every pixel in the hope of finding something useful isn't exactly edge of the seat stuff. And only having Advance and Retreat as movement options can be frustrating. However, once you've explored a few screens, chatted to the natives and picked up the odd metal object to fuel Explora for another time zone, the control system becomes secondary to the enjoyable pursuit of finding a way back home.

Most puzzles are trial and error (although some "shots in the dark" have fatal results) and, providing you have the correct item in your inventory, finding solutions is a matter of manipulating objects and characters until something interesting happens.

Chronoquest I was very successful and, with its detailed graphics, sampled sounds and intriguing plot there's no absolutely reason why *Chronoquest II* shouldn't follow in its footsteps.

ROB STEEL

GRAPHICS	8
SOUNDTRACK	6
CREDIBILITY	7
LONG TERM INTEREST	8
OVERALL	88%



You stand to the west of a grey convent.
What now? Look
You are west of a grey convent which has the otherwise attractive view. A red light shines from the upper windows and soft, sensuous music drifts through the air.

What now? ■



What now? Look
You are in the games room. A lesson is in progress. About twenty girls are being "taught" by the games mistress who stands, short haired and short skirted, in a circle around them. They are shouting and hitting the pupils with whips and short cones.

What now? ■



You are inside the base of the alchemist's tower. It's not really very impressive. There are no magic items to show who lives here, no demonstrations of his power, just dead furniture. A flight of stairs goes up. You can also see the alchemist, paracelsus, who is sitting twiddling his thumbs. He says breathlessly, "give me the amethyst!" But don't go upstairs, there is nothing there," he adds nervously.

What now? ■

dungeons, amethysts, alchemists 'n' everythin'

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A long, long time ago, when 16-bit quests were but a glint in the eye of the adventurer, a game came out from Atlantis which tickled the ribs of knights-errant everywhere. It was commercially successful – for a budget game – and well-received by critics. Using STAC, Atlantis have now converted *Dungeons, Amethysts, Alchemists 'n' Everythin'* to enable ST users to sample some ancient humour.

The dark lord of Tite-Arz has taken control of the kingdom and evil permeates the land. Inflation has risen to Central American proportions and five million people are out of work.

The amethyst, a magic stone recently stolen from the alchemist's tower, is the only thing that can put things right. And because you can't ignore a good quest, you set off to find the amethyst and return it.

Unfortunately, before you get very far you're captured by a nasty goblin and thrown into a cell smelling of unwashed armpits and dried urine. It's not difficult, though, to gain access to the adjacent passage and guard room where an odd item of clothing aids your escape. Be sure to stock up on obligatory adventuring items such as the sword and magic ring before you leave. And don't ask what the island creature is doing

with his head between his legs!

Once out of the dungeon you're free to explore the town's places of interest: the busy tavern, kinky convent, and local office of the Monastery of Admonasterative affairs. Or venture down to the coast and fulfill an adventurer's dream by slaying a dragon.



Above and left: scenes from DAA&E. Warning: those easily offended should steer clear!

The graphics aren't as good as they could be because they use STAC's graphic generator rather than *Degas Elite*, and the game doesn't make full use of the ST's memory. But these minor points shouldn't put you off because the game is great fun to play.

ROB STEEL

GRAPHICS	6
SOUNDTRACK	N/A
CREDIBILITY	7
LONG TERM	5
OVERALL	69%

HINTS AND TIPS

Sylvia Parry from London has very kindly sent us several pages of tips. Here's a selection to help the needy.

Personal Nightmare Horrorsoft

Carefully examine the walls at the vicarage. Make sure you have the sledgehammer. Keep your ears open, particularly at the start of the game. Look in the cemetery for a life saver.

Guild Of Thieves Magnetic Scrolls

Bet on the grey rat with the note found inside the cushion. To get past the cellar rats: push pipe; open stopcock; wait; close stop-

cock. Reflect light from the mirror to the wax to get the gem. Go to the hot house when the snake drops on you: the heat kills it.

King's Quest I Sierra-On-Line

The small hole in the rock is an exit! Remember David and Goliath for a clue to the giant's demise. Show the carrot to the donkey.

King's Quest III Sierra-On-Line

Listen to the mice on the ship to find the treasure. To get rid of the wizard, put a cookie in the bowl of porridge. Feel on the cabinet in the wizard's bedroom for a clue to open the safe.

King's Quest IV Sierra-On-Line

Return the gem pouch to the dwarfs. Kiss the frog. Wear the gold crown to get behind the waterfall. Shoot the unicorn with Cupid's bow but save an arrow for later!

Gold Rush Sierra-On-Line

Sell the house to raise extra cash. Use the card with holes on the fort gravestone. Examine boards in the gazebo.

Leisure Suit Larry I Sierra-On-Line

To get the pills in the window, do some reading at the store. Need a

password? Spend a penny! Ask Fawn to dance.

Leisure Suit Larry II Sierra-On-Line

Give pamphlet to the bore on plane. To open padlock, watch what you eat at the airport. Put soap in your bikini top.

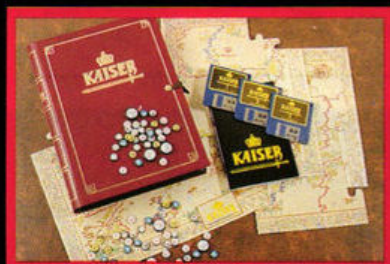
■ That should keep adventurers happy for a while. Thanks Sylvia. Meanwhile, if anyone else would like to share their adventure successes with a clue-hungry readership, drop me a line: Rob Steel, ST Format, Future Publishing, Beauford Court, 30 Monmouth Street, Bath, BA1 2AP.

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FIRE AND BRIMSTONE (Microprose) – Level 2

Mark "The Diddler" Higham shows you how to fly a biplane, pays a visit to Confucius, and explains how morse code can save you from knife-wielding girlies. So get cheating...

game busters

BLOODWYCH

Mirrorsoft

This classic two-player adventure is filled with monsters and mayhem. Probing around the four towers in search of the elusive crystals is tricky, but one of the biggest problems occurs when you open a door only to find there's an ugly creature behind it. If you want to see through a wall or door, follow the advice of **Carl Dinsley** from Newcastle-upon-Tyne. Stand so you're facing the door or wall and click on the SAVE GAME icon. Now cancel it and for a split second it disappears, revealing monsters behind it. This action can erase your *Bloodwych* data file so either use a copy or rename the .BAK file.

SUPERCARS

Gremlin

The only way to be sure of racing through the game is to follow the advice of **Simon Shanks** from Northern Ireland. When you're asked for your name, type ODIE to go straight into level two and BIGC to advance into level three. **Lorraine Chant** from the Isle of Wight has discovered an additional cheat which gives you an extra half a million pounds to play with. Type POOR when asked for your name and you're poor no more.

KID GLOVES

Logotron

Sometimes it seems the most amusing game on the market, at others it's a frustrating challenge, stuffed with problems. If you reach the point where you just can't tolerate the cuddly hero any longer, try cheating with infinite lives.

You need to reach any screen on the second level (the one with the Egyptian theme) and wait until you have no more lives left. Then

press backspace and your remaining lives flicker, eventually ending up on nine. You may need to die for this cheat to work.

FORGOTTEN WORLDS

US Gold

Hold down the shift key and type ARC. Release the shift key and press Help to start the game. Now press S to go straight to the shop and N to advance to the next level. Thanks to **Leigh Bond** from Leicestershire.

X-OUT

Rainbow Arts

To obtain more cash, follow the advice of **Hoi Wei Ng** from London. Go to the shop, purchase any ship, buy the shield and throw it away instantly. An extra 500 points are now added to your score. Repeat this procedure for even more cash.

CYBERNOID

Hewson

If you're having trouble moving through the levels, just type RAISTLINON when you're on the title screen.

WEIRD DREAMS

Microprose

If you're having nightmares about knife-wielding girls and striped fish try this *Weird Dreams* cheat from **Simon Shanks** of Northern Ireland. When you're facing the set of mirrors use the Help key to spell out SOS in morse code. Three dits, three daas and three dits achieve some remarkable results.



Pick up the orb for 5,000 pts

5. Avoid the scorpions tail. The witch appears and drops bombs. Kill her and she fires four fatal stars

6. When you pass the skull it leaps into the air and tries to kill you

7. Kill the red robot or you get into a scuffle and lose valuable energy

continues below →

CHAOS STRIKES BACK

Mirrorsoft



Chaos is arranged as a series of levels numbered from the top down. At the start of the game you begin in the middle of the dungeon. Apart from the ten levels, there's also an entirely separate level known as The Prison. SPENCER CLARK from Tyne and Wear claims he's the first person to have completed the game, finishing it using his original character on the 8th January. Here are maps of the prison section and level five – the start.

LEVEL FIVE

Putting a torch in the empty bracket reveals a secret passage and an armour room to the east containing a useful vorpal blade. Be quick in the supplies area because a pit forms beneath your feet when you stop. You have a few seconds grace, but don't pick up too much. Two keyholes close off pits, most of which drop you to the junction of the ways, but one drops you to level ten where you must surrender your possessions to escape. The room containing the button creates giant fireballs, so close all the doors behind you to avoid injury. This is the only exit if you don't possess the lockpicks.



a – Talon
b – Airwing
c – Aroc
d – Leta
e – Skelar the slayer
f – Dethi
g – Necro
h – Plague
i – Tunda Surefoot
j – Lana
k – Itza
l – Tula Princess of Uxmal
m – Buzzzz
n – Petal
o – Sting
p – Slogger webber

q – Gnatu spearwing
r – Mantia
s – Toadrot Prince of Skulash
t – Ven High Priest of Ssha
u – Algor
v – Dema
w – Kazai
x – Lor

□ Pressure Pad
X Magic Field
■ Pit
↑ Stairs Up
↓ Stairs Down
+ Key/coin/object
■ Button
■ Launcher

THE PRISON

Contains 24 new characters. Kazai and Lor are in passages hidden behind false walls. Rock monsters are defending Kazai and Mummies defend Lor. Consequently you need another character to reach either.

GEMINI WING

Sales Curve

This is a tricky shoot-'em-up, but if you heed the advice of **Richard Platter** from Northumberland, you can fly through it. He's come up with the codes to take you through levels three to seven.

Level 3 ——— Classics
Level 4 ——— Whizzkid
Level 5 ——— Gunshots
Level 6 ——— Doodguyz
Level 7 ——— D.Gibson

RICK DANGEROUS

Microprose

If you manage to get into the high-score table, type the name POOKY and you instantly continue from where you were killed.

THUNDERBIRDS

Grandslam

This translation of the Gerry Anderson cult TV series is split into four levels. **Andrew Comerford** from Slough has discovered the passwords to all the levels. Type in RECOVERY for level two, ALOYSIUS for level three and ANDERSON for level four. Your problems are only just beginning.

THE LAST CRUSADE (GRAPHIC ADVENTURE)

Lucasfilm/US Gold

Last month we printed Billy Delaney's tips on how to get through Castle Brunwald in the Indy adventure game. This month we continue the tip where we left off.

Once you get out of the castle you're ready to use the motorcycle and race off. Fight the guard and when you reach Berlin give the pass that you collected earlier to Hitler. When you reach the airport, Henry should go to the right of the man and talk to him about his grandchildren. Now Indy can get the tickets out of the man's pocket. Leave the airport and clamber onto the Zeppelin. Give the steward your tickets and go to the piano and place coins in the bowl.

Choose any song and you're soon joined by the radio man. While he's at the piano, make Indy dash in and grab the wrench from the locker. Fight the radio man and then demolish the radio with the wrench. Use the first aid kit, leave the room and use the wrench on the hole in the wall. Climb the ladder, dodging all the guards on the way – don't worry if they meet you, they don't ask any questions. Now negotiate the catwalks,

12. Get close to the jaws of the green thing then jump

13. Inch forward and you can blast most of the eyeballs. The rest go over your head

14. There's a fire-breathing snake in the tree. Wait for him to shoot fire then race past

15. The tombstones move the moment you get onto the screen. Be very careful and keep moving

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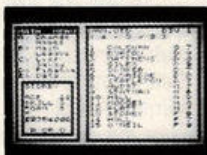
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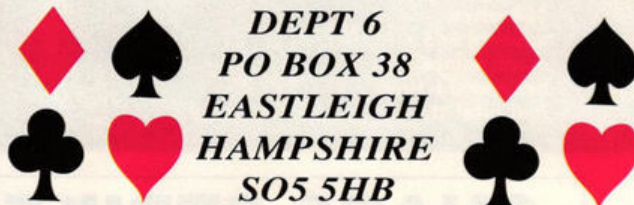
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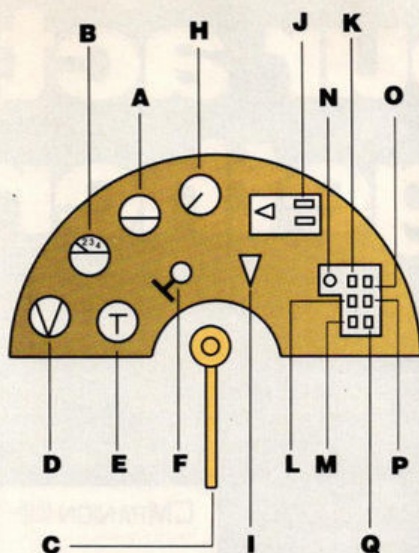
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1. Turn on APU switch (L). 2. Pump oil pressure handle three times in and out (C). 3. Turn on fuel pump (Q). 4. Switch on the tank with fuel in it (J) (Green light). 5. Turn on both magnetos (I) and push the dial to the far right. 6. Pull the throttle out (E). 7. Switch the ignition on (O). 8. When the APU meter (B) reaches 3 press the ignition button (N).

■ Daryl Bowman offers this advice on how to fly the biplane in *The Last Crusade*

and reach the biplane. You find that Henry has miraculously reached the biplane first. Take off and aim carefully at the Nazi planes. It's inevitable that you crash, but after a brief pause to dust yourself off, use the blue car and each time you're stopped by a guard, just hand him the pass.

When you reach the temple you're met by Donovan who shoots your father, leaving you to continue the quest alone. As you begin your first quest, go to the middle of the rocks and walk past the first crack in the floor. If you're lucky you can squeeze through, but if not, don't worry because you can go back to the front of the temple and start the three tests again. The second test is simple – just hop around the floor using the letters G, E, H, O, V, A only. In the third test, just walk straight across to the opposite tunnel.

You now find yourself talking to the third knight. Choose the grail carefully and test it to check it's the real one. Provided you've chosen correctly your quest is ended. Just stand and watch Schneider being swallowed up by the cracking floor and then leave the temple. **stf**

SHARE YOUR SECRETS!

We have £50, yes £50, to give away each and every month. So if you've finally found your way through that "impossible" game, send your tips to: Game Busters, ST FORMAT Future Publishing, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.

This month's fabulous £50 prize goes to Spencer Clark from Tyne and Wear for his comprehensive *Chaos Strikes Back* cheat. Many congratulations Spencer!

Visit the future to save earth from destructive robots. *Time's* scenario gives you the opportunity to visit characters in five historical periods, from Merlin the Wizard, Florence Nightingale and Leonardo da Vinci to Julius Caesar and Confucius. They are reached by using a time transporter found at the space station, and it's here that the game begins.

When you enter the space station you're at location 0 and need to walk until you reach reception (2). Along the way you pass the hammer (1) so you may as well pick it up. Your first problem is to get to see the Director. The foreman doesn't let you through so create a diversion by using the hammer to set off the fire alarm at the right of the reception desk. The foreman now dashes out and you can race through to see the Director. He eventually gives you a shuttle pass which you should take back to location 1. Continue to walk left until you reach 0 and you're taken to Earth.

Now walk straight through locations 41, 42, 43 until you reach the tube which circles through 43, 44 and 46. Get off at 46 and try meeting the doctor. His wife doesn't let you past so go back to Sea World where you're eventually given a complimentary fish by the guide. Take this back to the doctor's wife and she lets you see the professor. He offers you a trip in his travelling machine and you're given a code word. Write it down and remember it.

Now return to the space station. You can't proceed past location 9 because the rest of the ship is in quarantine and you need to be inoculated. Find the nurse in location 1a. She doesn't think you need an inoculation so take the thermometer to the ladies toilet where

the air-conditioning has broken. You need to activate the thermometer (by examining it and pressing USE). The temperature now reads 99.9 so take it back to the nurse and she gives you an inoculation. You now have the run of the ship.

There is an entertainment room at location 10 and if you work out how to play the machine you can beat the high score held by Jim. If you beat him he gives you the clue to the origin of all the password codes for the time machine later.

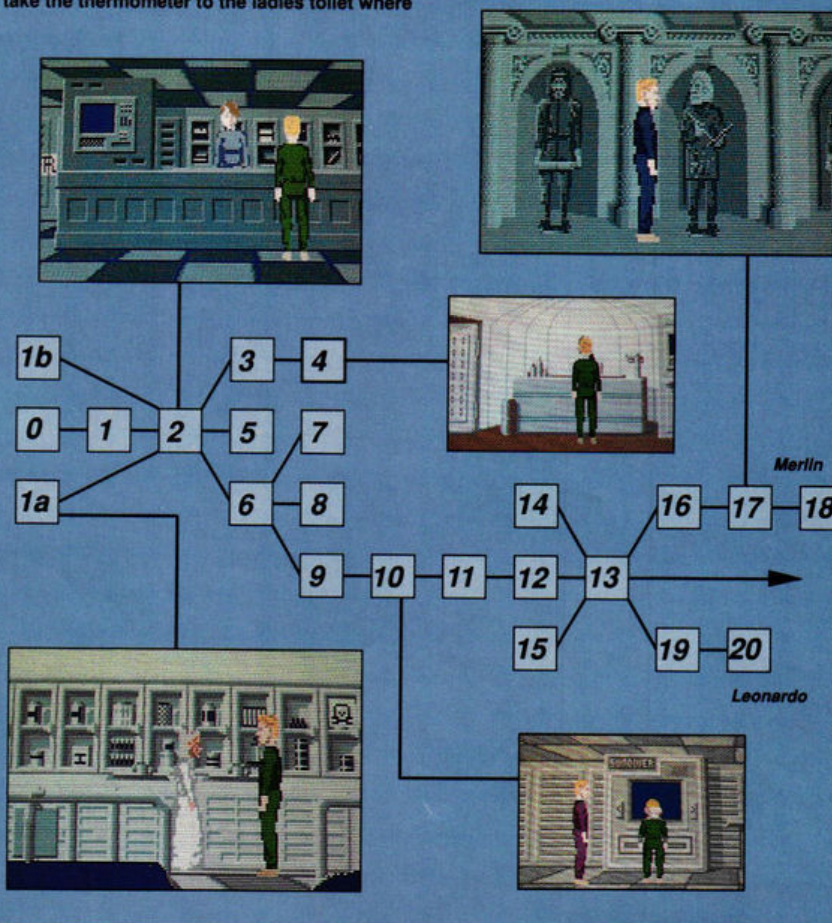
Go forward to location 13 where you find the rest of the ship is unreachable without research security status.

The only way to get clearance is to go to the librarian in one of the libraries. Although she's a total bore, she does tell you that you need a change of clothes to proceed. Go to the

changing rooms (5) and your security level is increased next time you meet her. There is useful information held on the disks in the library so order them from the computer, collect them from the hopper on the left and take them to the videofax in location 24 to read.

The child from the entertainment room is probably proving a pest by now, but you can find his teacher in locations 19 and 20 and get her to take him away. Wander through the galleries 16, 17, 18, 19 and 20 and investigate all the statues. Here you find the code for the Merlin Time Machine (04210503). This is needed for all time travel except to meet Confucius. Go to 18, drop all the objects, and then type in the relevant code. You're now taken back to the Merlin time period. We'll tell you how to proceed from here next month.

TIME Empire



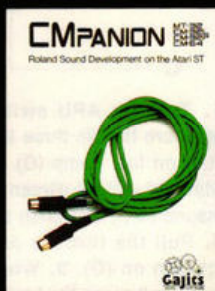
get your act together



You've heard the Cover Tape, you've loaded the Cover Disk and you've read Jon Bates' explanation (page 16) of how he put the sequence together. So now's your chance to do it for yourself!

In conjunction with Roland UK we're giving away this fabulous Desk Top Music System, worth a whacking great £469. Not only do you get the CM-32L LA sound module (the equivalent of an 8-piece band plus drums), but also Dr T's Tiger Cub sequencer, Copyist Apprentice software, a desktop accessory disk and all the leads you need to run the system through your hi-fi. And that's not all, because there's also a PC-200 MIDI Keyboard Controller, worth an extra £175. That's over £600's worth of kit, all for lucky old you!

Not a bad consolation prize, either. Five supposedly unlucky second prize winners can net themselves a copy of Gajits' Roland Sound Development package *CMpanion* (cost: £99 each).



■ **Consolation: five Gajit CMpanions!**

So what do you have to do? Simple: put the answers to these questions (it's as easy as ABC!) on a postcard or the back of an envelope, together with your own name and address, and send it to: Roland Comp, ST FORMAT, 30 Monmouth St, Bath BA1 2AP, to arrive not later than Tuesday 31 July 1990. Here goes: -

1. Which German band had a hit with *Autobahn*? Was it:
 - a) Kraftwerk,
 - b) Tangerine Dream, or
 - c) Faust?
2. Who recorded *Axel F* for the soundtrack of *Beverly Hills Cop*?
 - a) Glen Frey,
 - b) Harold Faltermeyer, or
 - c) Paul Hardcastle?
3. Which French synthesiser wizard staged a sound and light extravaganza at the Docklands last year?
 - a) Pierre Boulez,
 - b) Eric Satie, or
 - c) Jean-Michel Jarre?

RULES

1. This competition is not open to employees of Roland UK, Future Publishing or Gajits Music Software or their relatives; no not even the editor's granny.
2. Entries, which must be received by 31 July 1990, become the property of Future Publishing.
3. The editor's decision is final and no correspondence can be entered into.
4. Anyone who doesn't enter this competition is silly.



■ **To go with your Desk Top Music System, a rather neat little PC200 (normally £175)!**

Seeing is believing!

Lattice C 5

Actually shipping at last, Lattice C version 5 is an extremely versatile and powerful development system for the popular C programming language, adhering closely to the new ANSI standard. The system is characterised by a truly flexible environment together with the attainment of a very high speed of object code execution.

In the development of Lattice C 5 for the Atari ST, the emphasis was on producing a package which can be used easily by the novice to the language as well as by the seasoned expert. Freedom of choice for the user was essential if this goal was to be attained and this has been achieved at all levels of the development cycle resulting in a flexible, easy-to-use and extremely powerful collection of programming tools - probably the ultimate C system for the Atari ST!

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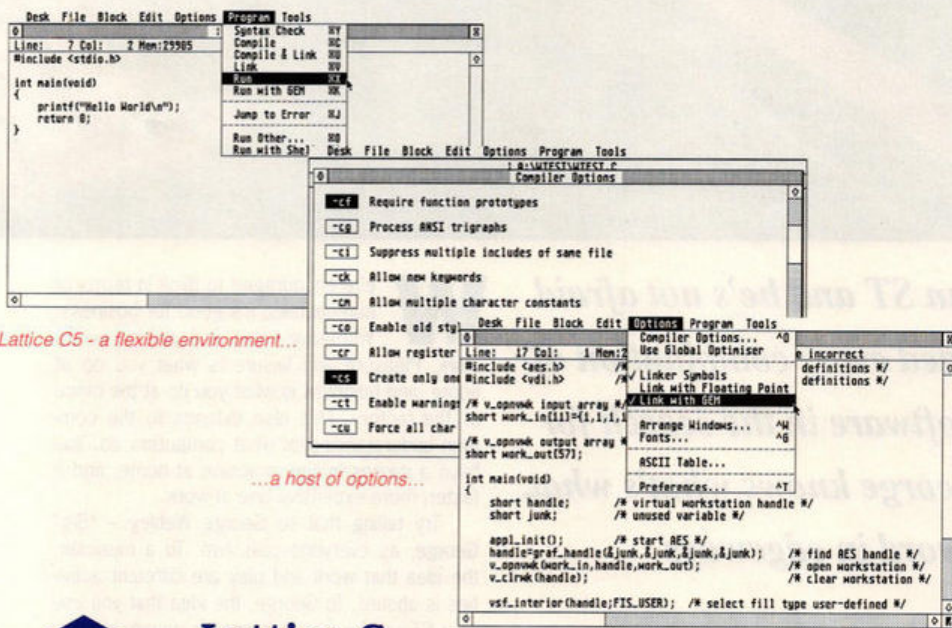
- Powerful C compiler generating very fast native code, plus high ANSI conformance
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- Standard assembler allowing quick & easy low level programming. Link with other assemblers like DevpacST
- Disassembler for you to optionally hand-optimize the code produced by the package
- Special version of the MONST debugger allowing automatic loading of your source code and tracing via line numbers together with a host of low level debugging commands

Lattice C 5 requires:

- Any Atari ST computer with at least 512K memory, a double-sided floppy disk drive & TOS in ROM, although the use of 2 floppies or a hard disk & 1Mb+ of memory is recommended.

The package contains:

- 3-volume documentation; User Manual, Library Manual and Atari Library Manual giving comprehensive details of the complete system including a step-by-step tutorial
- 7 double-sided disks in a protective wallet
- Full installation instructions for your particular system.



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Big George Webley's got an ST and he's not afraid to use it. Indeed, having tried every combination of ST hardware and music software in the search for that elusive pop classic, George knows what's what. Steve Carey tries to get a word in edgeways

big george and the numskulls

We're encouraged to think in terms of pigeonholes: it's good for business. You leave home and you go out to work. Pleasure and leisure is what you do at home, and business is what you do at the office or the factory. This also extends to the common understanding of what computers do. You have a games/leisure machine at home, and a faster, more expensive one at work.

Try telling that to George Webley – "Big" George, as everyone calls him. To a musician, the idea that work and play are different activities is absurd. To George, the idea that you use your ST just for playing games is equally absurd. Sure, he goes out to work three days a week; he's the musical director on Sky TV's *Jameson Tonight* (do they mean Derek? They surely do). He's also worked on *The Tube* and *Whistle Test*, and played with acts such as Lisa Stansfield, Elvis Costello and Madness. At the end of May he was musical director for the LWT Telethon. But he also works at home, and the machine he uses to do his accounts and word processing – and play the occasional shoot-'em-up – is the very same machine he uses during the day to "work" (or is it play?) on. It's an Atari ST Mega 1.

George, you're 33 years old, so you must have been playing music long before the ST arrived?

Yeah, I'm a musician and I always have been, ever since I can remember. You know, leaving



■ "Big" George Webley, musical director for Sky TV, with his favourite instrument – a Mega 1

school, never having a proper job and all that. How I first got started in this business: there were three people I idolised in music – Herbie Flowers because he was the greatest British bass player that ever lived; James Jamieson, who was the bass player at Tamla Motown (sadly, he died a few years back); and the third, my all time favourite, is Quincy Jones, because he's a genius at making music work. I wanted to get into the music seriously, so I got in touch with Herbie Flowers. That's how I got started.

Anyway, about five years ago I started to realise that music was taking a different turn, away from being player orientated towards a lot of computer-based things. I still love playing, but I saw there was a new avenue I could explore. I could also see from the way things were going that I was going to end up out of a job!

So I bought a Yamaha CX5 for about twice as much as an Atari costs nowadays. It was this piddly little machine that you spent an hour making go squeak. It was really laborious and boring, it had very limited applications, and it was based on the MSX system which is now dead. There was no back-up and nothing else you could do with it: it was just a lump of computer which was no use, except for spending

hours doing something that would take you seconds if you were actually playing it!

So I threw that away – I mean, *literally*. And then I saw the Atari. I can't remember where I first saw it, but I went to a specialist dealer up in Derby called Squaredance who put me right, and I bought the 1040 and a sequencer pack-

tends to be very one way. It's a rigid structure that assumes there is only one way of doing things. Then I got Steinberg Pro 24, because everybody had it and everywhere you went people said "Get Steinberg!"

So I went out and bought Steinberg Pro 24 and I just *could not* get on with it. There was no logical pattern to things, it was badly explained. It's a German system and it looked as if they'd got a sixth form girl to translate the German manual into English: it translated right but had no bearing on what was going on.

Then I went for C-Lab Notator, by far and away the best I've used. I've used everything: *Passport*, *Cubase*, but *Notator* is by far the most friendly in the respect that a) it doesn't crash, and b) there are so many applications. There's not just

one way of doing it, you do it whichever way you want. And the manual is so easy to read! I don't often read the manual (who does?), but if there is a particular problem then I can go to the manual and find it, and it's such easy reading, and humorous too! Although it's from Germany, there's a nice chap there who's always open to suggestions. Indeed, I suggested a couple of improvements (*Overlap Correction* and *Force Legato*) and within a couple of months they had ➤

GEORGE'S KIT

George is on his third ST, a Mega 1 – with no hard disk, surprisingly. At home in his pre-production studio, where *FORMAT* went to see him, he uses v2.2 of C-Lab *Notator*; an Akai MX73 as a mother keyboard; two Akai professional MIDI stereo digital samplers (the S1000, which can sample in total up to three and a half minutes; and its predecessor the S900, which can be picked up these days second-hand for about £600); a mixing desk and an Alesis *Quadraverb* echo machine (though echoing can be done with *Notator*, of course). He also regularly uses a DAT machine (see Jon Bates' explanation on our cover feature, page 16) for recording his efforts to take into the studio.

age. I spent an hour with them in the shop just watching – I always think the best way of learning something is to watch someone who knows what they're doing. I realised there are lots of shortcuts and user-friendly systems in there. I was aware that the computer was there to help me – even though I bugged up a lot of stuff.

What music software did you start off with?

I started off using Hybrid Arts software, an American system which is really superb but



■ George uses a Mega 1 in his studio with the Akai MX73 keyboard and Akai S1000 sampler

> included them in one of the updates. Gerhard Lengeling, who wrote it, is a genius.

When you look at the program itself from the Desktop it looks impossibly difficult. But in fact it's a very easy, flexible system and the reason I like C-Lab is that it takes seconds to get going. You can actually be up and running in five minutes with a recognisable tune and then start overlaying and keep updating everything you're doing, or move forward. So rather than having to complete each task and then start the next, you can do a rough version of everything and then polish them together.

How would you advise an ST user to get started? What equipment do you need?

Well, you need at least one outboard piece of equipment to generate the sound. The Atari doesn't have any sound in it at all, although it does have MIDI ports – the only complete computer that does – which means that it can take the information in. What I suggest is that you get a multitimbral unit to start with – what multitimbral means is that you can play more than one thing at a time out of a box. You can have a piano, a bass, an organ and a synthesiser sound all coming out of the same unit at one time.

They're quite cheap: if you look around you can get that sort of unit for about £60 or £70 second-hand, and if you can go up to £200 you can get one that includes drums – otherwise you need a drum machine as well. You also need a small keyboard with MIDI out. I use the Akai MX73 as a mother keyboard: it has no sound, it's just there for generating information that goes into computers.

Cheetah and Casio have really cheap units out. The beauty of Casio is that they're forever discontinuing units and bringing out new models. So you just buy the unit they've discontinued and are flogging off at Tandys for £55 and bosh, you have yourself a £200 keyboard which has sounds in it.

As for samplers, there's the Akai S900, which is now out-of-date but still sounds fantastic. Anybody thinking of going into sampling should look around the second-hand market because you can pick up an S900 for about £600 and it will never ever let you down. The thing about Akai sampling is that it's very much like the public domain, except the disks don't cost anything because you can keep copying everybody's disks. I've got thousands, literally thousands of disks, full of sounds of S900, so whenever I see anybody and they say, "Have you got such and such a sound?" I just say to them, "Yeah, take it and copy it." So everybody has a large library. But even though I've got thousands of sounds – I have access through the ST to 14,000 Yamaha DX7 sounds and 12,000 Roland D50 sounds – I probably use no more than 14 of them on record.

And how would you set about creating a sequence?

The thing to remember is that with most pop songs there's only ever three parts: verse, chorus and what's known as a bridge or tag, the bit that joins the verse and the chorus. For maximum effect you either don't use the tag before a chorus, or use it twice, or use it as an intro. There are very few bits of music – pop music – that have more than three structures in it.

That's the skeleton, and once you've got the arrangement how you want it, you might suddenly say, "Right, the second time I go to

the chorus I want it to change." So I'd take the chorus and copy that to another area of the software and modify it. Then the second time I went there it'd be a little different. I'm generalising, of course, but this is what you could do on any sequencer package, including the ones you can pick up in the public domain for £3.

If I was doing a pop-based song, for example, I'd start by just having a one bar drum field and looping that up. Then I'd get my bass guitar and do the line over four bars. I'd start building that up and then go back to the drums to see how I could improve them and make them part of the rhythm as opposed to repetitively going round and round. Then I'd stretch that, and before you know it, within a couple of minutes you've got the basis of a chorus or verse.

MR MUSIC MAN

George Webley has been Band Leader/Musical Director on over 250 hours of live television on Sky TV's *Jameson Tonight* and two *Comedy Specials* for America. At the end of May he did the same for the LWT Telethon. He's been Musical Director for a number of well-known acts and has worked on some of the major television and radio shows (*The Tube*, *Whistle Test*, *Saturday Night Live*) and at national venues such as the Hammersmith Odeon.

He has also done a good deal of studio pre-production. As a bass player he has played, either live or in the studio, with acts such as Lisa Stansfield, Elvis Costello, Nigel Kennedy, Dr Feelgood, Status Quo, Madness, Lou Rawls, Rolf Harris, The Roly Polys, Vince Hill, "Whistlin'" Roger Whittaker, Su Pollard, Patrick Moore, Hinge & Brackett, Danny La Rue and A Singing Pig.

In 1988 he produced, arranged or programmed 9 Jack Mix tracks: two top 75 UK national chart, two top 30 in Germany, a top 20 in Spain and one – his own composition – which made number 14 in the New York dance chart. He has composed signature tunes for TV – including one for a major soap opera – and jingles for MTV and DEF II. In 1988 he won the International Musician songwriters award.

When Steve went to see him he was working on a cover version of the old Mott the Hoople classic *All the Young Dudes* (written, of course, by David Bowie).

George has numerous scandalous and quite probably libellous stories, none of which, unfortunately, can possibly be repeated in print while the central characters are still alive to sue.

But you should remember, as Harry Belafonte said, "If it was easy, everyone would be doing it." So if you want to get into programming, remixing, producing and making dance records, don't think that you can just get a computer, spend two days sorting out a tune and think you're going to become the biggest thing in the world! If that was the case everybody would be doing it, you know. It takes a lot of determination.

So what you're saying is, it's easy to get into but difficult to make it?

Exactly: you can get the basics, you can sample and sequence things, but then you've also got to be able to make them work. It's a bit like creating an ST game. You can draw the character and have a game plan, but if it doesn't work that's it, people just won't buy the game.

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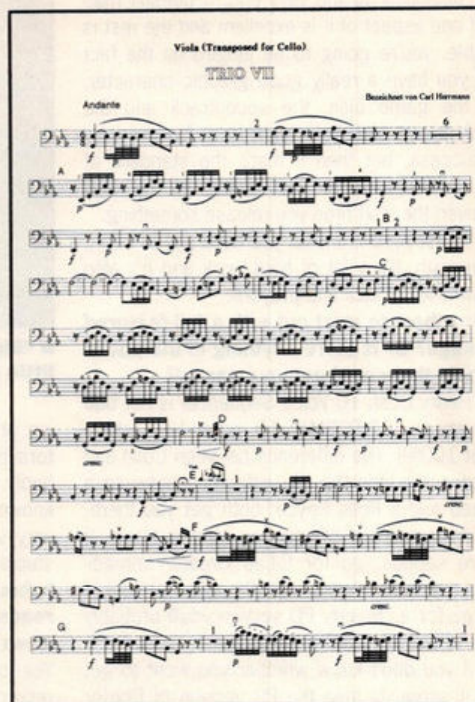
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Everything has to be thought through from the very beginning to the very end. It doesn't matter if one aspect of it is excellent and the rest is terrible: you're going to be judged on the fact that you have a really good graphic character, but the game plan, the soundtrack and the graphics are shit. You might have five minutes of success, but then if that's the standard of your product you're not going to be well received the next time you release something.

To succeed in music you have got to see it all through. It's a lot of hard work and it's also an awful lot of luck and prayers.

So is it best to start out with a full-featured package? Or is there anything in the public domain that could get you started?

The Henry Cosh 16 Voice Sequencer is not bad (see review, *ST FORMAT* 10, page 117, where it got 100%). The difference between Cosh and Notator is a little like the difference between a moped and a Rolls Royce: both get you there, but it's a question of how you want to travel. If you're serious, go for C-Lab Creator immediately, because it's so well thought out that if you go for a cheaper PD system you'll probably have to unlearn a lot of things.

If you don't know whether you want to get into it seriously then the PD version of Doctor T's stuff, or the Cosh Sequencer are both fine. Hybrid Arts software is also powerful, and the way it's structured is very clever indeed. I can recommend it wholeheartedly. Remember, though, that if you're going to get a sequencer you need hardware to generate sounds, so be sure what you're going to do before you do it.

Whatever you buy, though, you should always see it in action and see someone swear-



■ "Big" George taking good care of those little guys that rush around inside his ST

ing at it. I've known people smash Atari monitors because Steinberg Pro 24 cocked up so badly. Whereas with C-Lab Notator, I've never known anybody do anything more than swear very vigorously – and it's usually at their own stupid mistakes!

I should make it clear for the benefit of the readers, George, that these are your own views, not ST FORMAT's!

Yes, sure. But everybody I know that has chart records uses C-Lab. Gerry Roger who did the Acid Man side of things, there's Graham Park and Tim Mold who do a lot of the Urban Beat and Squaredance things. There was Rick Peat who did the Candy Flip things, the Cold Cut Crew, Norman Cook of Beats International, Bomb the Bass – they all use C-Lab just because it's so flexible.

George, you use the ST here in your studio every day to create music. Do you need to

be a technical genius to use it? I mean, do you know how it works?

You're joking, man! I don't even know what hexadecimal is, so I can't equate with that. The only way I can work out how a computer works is that there are thousands of little geezers inside the Atari rushing around doing unbelievable amounts of stuff. There's a little man underneath the T key, and he rushes up and does that. They've all got their separate jobs. And this is why you have got to be very careful not to give a computer too many tasks at any one time, because they might bump into each other and crash.

Er, so you're interested in what the ST can do rather than how it does it?

Yeah, the ST's so broad! I use it mainly for music, but I also use it for all my accounts and letters. It's superb, and you can play great games and have stress-free evenings with it.

Incidentally, I always read aloud what the computer is telling me to do, because it knows tons more than I do. People can correct obvious mistakes, but computers don't make mistakes. When it asks "Do you want this, or not?" I read it out loud so I won't cock it up. **stf**

■ **ST music software mentioned by George:**

C-Lab Notator (£499) and Creator (£299)
Sound Technology ☎ 0462 480000;
The Henry Cosh Sequencer (£2.50)
Goodman PDL ☎ 0782 335650;
Steinberg Pro 24 (£150) and Steinberg
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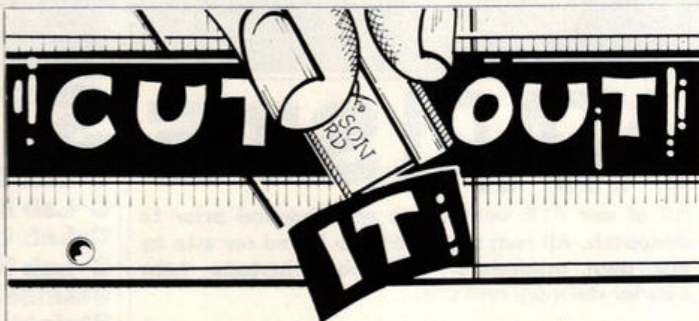
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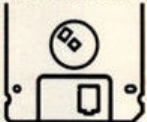
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breaking into art

All computer displays are created in a similar fashion. A chip inside the computer decodes a block of memory and produces an image from that information. The chip knows various facts about the data, such as where it is, how long it is, and how the data is arranged to make up the picture. In the ST the data block is part of the standard memory.

Before the display chip scans memory, it gets the start location from a designated place. If you change the value here the chip scans a different space in memory. In other computers the screen resides in memory on a graphics

Our questionnaire results suggest there are lots of frustrated ST artists looking for help. Jumping in at the shallow end, Mark Pickavance outlines the ST's graphic capabilities for first time users



■ A scanned image at the resolution it looks best – printed at a 1:1 ratio

card. The amount available and its location depends on what card is being used.

The advantage of the ST's technique is speed. The size of the ST screen is 32K long, whatever mode the screen is in. The only difference between modes is the way in which the data is arranged. This is reflected in the way the display hardware scans the data to make the image. The screen area is scanned 50 times a second to produce an image. When the screen is being scanned the processor is locked out from altering memory.

The screen is 32K long in all three modes; low, medium and high. These give a choice of 16, four and two colours respectively – though some art packages, such as *Spectrum 512* give you additional "special" modes that enable you to have more colours on-screen than normal.

The high resolution mono mode is different because it requires a special monitor and the only colours are black and white. In low and medium resolution the colours can be chosen from a palette of 512 colours (4,096 on the

STE). This means you have a mode for games, animation and painting (low) and a mode for text or serious software (medium), if you don't possess a mono monitor.

The words often used to describe the size of a screen are "band width." If a computer has graphics with a large band width then it has high resolution and/or a large colour range. The ST screen has a small band width by current standards, making it highly suitable for fast games which change the screen often.

When you turn on your ST you're confronted with GEM – the Graphic Environment Manager. This is a grand name for a rather basic way of running programs and organising disks.



■ The same image but closer: note how the picture is becoming blocky

GEM, and programs written to work with it, need to be able to change the screen. Using the mouse pointer is the most obvious way of doing this. The screen is changed by indirectly altering the screen memory.

When a GEM program wishes to modify the screen, with say a pull-down menu, it calls the windows and selectors part of GEM known as the Application Environment Services (AES). This in turn actions some primitive graphics functions. The part of GEM that does this is

called the Virtual Device Interface (VDI) and the primitive graphics instructions are called the A-line functions. It's these that change the screen.

What's the point? The best way of understanding why the software does not directly affect screen memory is to consider the TT – the 32-bit ST which Atari have shown, but not released. It has some new "super" modes which use more memory than those in the ST – 150K to be precise. Using the direct method of changing the screen would, in these modes, result in screen junk. A GEM application written to use AES, VDI and the A-line system would work correctly, because the code that drives graphic output understands the new screen size and layout.

The original concept was that all devices (that is, screen, printer, plotter and so on) should be driven by this process. The control program for the device drivers is called GDOS. And several well-known packages use GDOS to drive peripheral devices. The screen is not included because the drivers for the three resolutions are built into the ST.

GDOS was devised by Digital Research when they created GEM. Since then they've been in dispute with Atari. The results are that GDOS is not as good as it should be and no



■ Any closer and you have difficulty working out exactly what it is

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➤ new device drivers have appeared. This means the choice of printers and plotters supported by GDOS is limited – in fact not one colour printer is supported. Atari should be ashamed.

The other limitation of GDOS is the font system. The GDOS font format is fairly good. Calls to GDOS by a programmer place text in a given font on a screen, or to a printer, quite easily. The only problem is that GDOS insists that all fonts are specified when the computer boots, and loaded into memory when the program using them runs. This severely limits the number and range of sizes available. It also means they must all fit on a single disk and in available memory. This is a joke and Atari should never have agreed to this set-up.

Unless the application you need uses GDOS, I strongly recommend you avoid it. Making any changes to the fonts or printer drivers

A bit image looks best on a screen or printer at the scale it was originally designed (that is, at a one to one ratio between the dots in the picture and that of the output device). If the image is enlarged or compressed, or the ratio between height and width are changed, the end result is often poor by comparison.

The other data type – GEM – is an "object" or metafile in structure. The image contained in

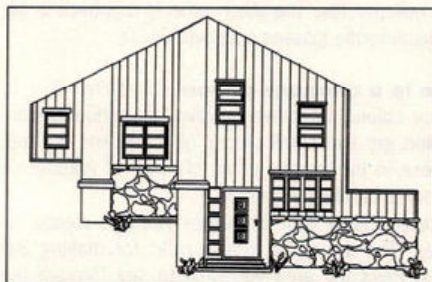


■ Close-up more detail emerges, because this picture is resolution independent

size and style must have a complete set of bitmaps so you soon discover that you can't use many differing types because of disk or memory space.

The ideal solution would have been to use vector fonts. In a line or vector font each character is a complete technical drawing. The advantage is that just like object drawings they can be re-scaled without loss of quality. This system is used by Calamus and Pagestream.

So now you know: the screen is narrow band, 32K, at a variable position and modified by AES, via VDI and through A-line; the control program for device drivers is called GDOS, which is of limited use; picture files can pass between different GEM applications and are either bit image or metafile in structure. Simple when you know, isn't it? **stf**



■ This house is a GEM object drawing – note how finely detailed it is

is like home dentistry. And most of the better packages have given up using it in preference to their own methods.

When GEM was conceived, Digital Research outlined a set of rules for picture files so they could be pass between different GEM applications. There are two file types, easily recognisable by the file extenders IMG and GEM.

The IMG extender indicates it's a bitmap image. This data defines an image made up of X by Y dots or pixels. The original specification could not handle colour and as a result IMG files are generally mono.

■ The same house but a quarter the size. It still looks good but you can't see everything

the object file is constructed from graphics primitives: lines, circles, polygons and so on. These are re-drawn by GEM when the object file is displayed or printed. The advantage is that the picture is re-scaled, with no loss of definition. The image is simply re-created in a different size. Object files are also resolution independent.

If the GEM object format has any drawbacks it's the lack of provision for Bezier curves, angled ellipses and a poor method of representing line thickness. On the plus side, because it's made of graphic pieces it's possible to pull your drawing to bits and re-arrange the parts. You have total flexibility. It does support colour, but you rarely see colour drawings.

If you run any GEM application which uses GDOS, you can use GEM fonts. These are usually supplied with the package in a set range of sizes and styles. They are always in pairs, a screen font and a printer font, which allows for the different resolutions in each. In the font data each character is a small picture (bitmap). Each

Hello, I'm a
Font made of
vectors

And I am no

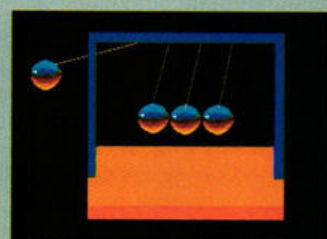
■ Problems occur when enlarging bitmap fonts – but not with vector fonts

ANI-ST COMPETITION RESULTS

On Cover Disk 8 we included the ANI-ST animation package. That month we also set a competition to see just what you could do with it. The response was excellent: not only were we impressed by the number of entries but also the subject matter covered and the originality of the ideas.

The winning animation is called *Megabot2* and features a robot with distinctly anti-social tendencies. In a small covering note R. Spreadborough states that "The final scene of this movie (which involves a carnivorous robot feasting on a human head) has been omitted on the grounds of taste (or rather lack of it)." It's good to see that some people can exhibit a level of responsibility beyond that exercised by the tabloid press!

Four entries deserving an honourable mention are *Dino-Demo* by Grant Taylor, *3-Demos* by R.J Sizer, *Demo* by Gavin Smith, and *Atom* by Tom Green.



■ (left) Bizarre head-wrenching scenes from *Megabot2*, the tasteful winning entry from R. Spreadborough, and (above) two entries from R. Sizer's *3-Demos*

into the third dimension

Ever thought 3D graphics on a computer would be much better if they really were in 3D? Computer holograms are still in the future for home computers users, but that doesn't mean you can't try other approaches

The possibilities for 3D images were explored in the fifties by film studios worried by television's encroachment on their audience. The first 3-D effects used simple red and green glasses with black and white films. Then a system called "Natural Vision" was developed that used polarized lenses and produced a 3-D effect on colour films. There are several ways of producing stereoscopic images on the ST screen and they all attempt to fool the part of the brain responsible for how we perceive depth.

Our eyes are mounted on the front of our heads so they can both focus on a specific target. This enables us to judge distances by analysing the angle between two eyes focused on the same object. The further away an object is the closer to being aligned the eyes become. The brain's comparison of the two pictures is the key to creating stereo computer graphics.

The problem with showing a 3D image on a computer screen is that you need to produce two images and show one to each eye. There are two possible approaches. If you are flush with funds, familiar with CAD 2.0, and can still find someone selling them, you could purchase the Tekronic Stereoscopic Glasses (£0480 496666). They have liquid crystal lenses which are connected to the computer and flash on and off in sync with the display of right and left pictures. Thus the left eye only sees images

intended for it and vice versa. This produces excellent results in full colour, though some people complain that the pictures flicker too much, bring on migraine and induce epileptic fits. The other (other?) drawback is the cost, because the glasses cost over £130!

There is a cheaper option – if you're willing to sacrifice colour. Go down to your local photographic shop and get two small pieces of green and red gel. Put these in the frames of an old pair of glasses or make some cardboard frames.

Once you have your 3D specs you can create 3D pictures. There are some simple rules for making 3D images. Paint the area you wish to see through the red lens red, and paint the green area green. Areas which are seen with both eyes should be a brown/purple colour. The exact palette values you use will depend on your monitor and the gels you bought. It's best to begin with pure colours (green on RGB is 070) and modify from there. Those people who own STE's have an advantage because of the extra palette colours which enable them to match colours

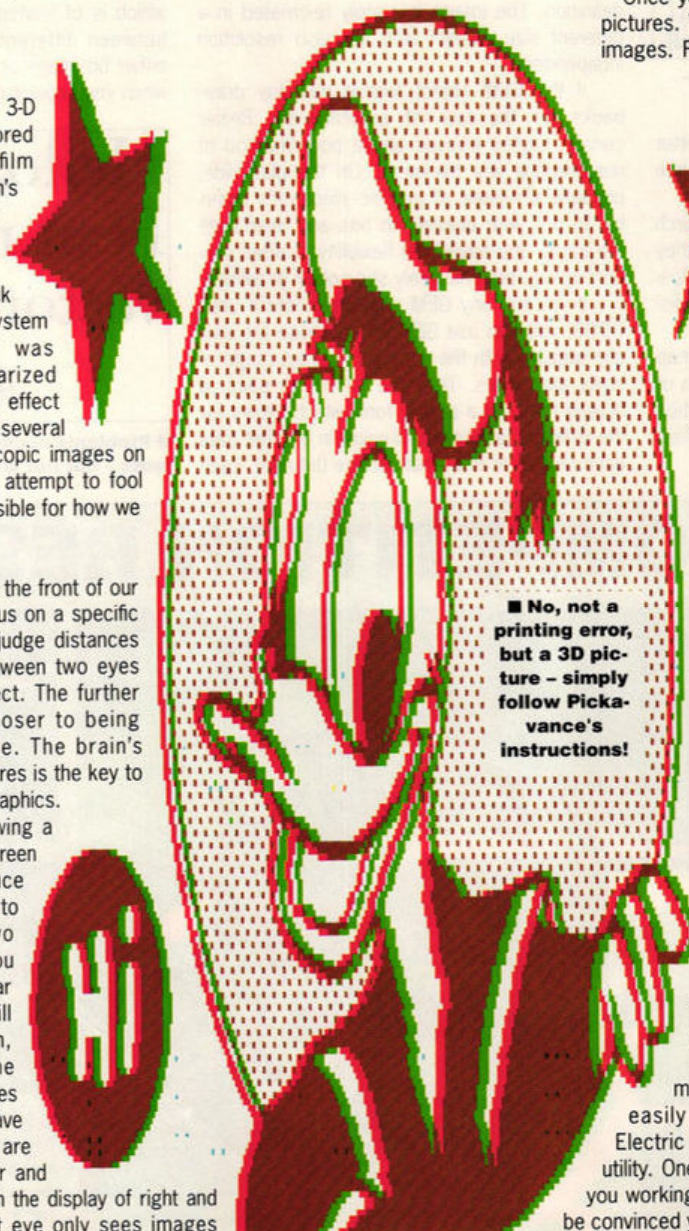
much more accurately.

Let's take an example of stereoscopic painting. Draw green, red and purple circles. Then cut out the green circle and place it over the red one with a slight offset. Make a copy of this. Then take the purple circle and paste it exactly over the red in the copy you just made. You now have a purple circle with a red edge and another with a green edge. The final action is to take the red edge by flooding the purple to background colour and placing it on the combined green and purple. The end result is two circles, one green and one red with purple where they overlap.

The exact amount of the offset determines how far away the brain thinks the object is. A large offset is interpreted as a near object while a small offset is seen as a distant object. One warning, if you make the offset too great your brain has difficulty associating the two images, the 3D won't work, and you give yourself a serious headache.

Once you've mastered the technique you may want to try some 3D animation. This can easily be produced in *Cyber Paint* (£49.95 + Electric Distribution 0480 496666) or a slideshow utility. One last piece of advice: don't let anybody see you working with your ST wearing the glasses, or they'll be convinced you've flipped your wig! **stf**

■ No, not a printing error, but a 3D picture – simply follow Pickavance's instructions!



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What does MIDI stand for?

Best of luck and all that, not that you'll need it, being so clever and everything, and having the wit to spot that the answer is strategically concealed somewhere within the pages of this issue of ST FORMAT.

RULES

1. This competition is not open to employees of Micromagic, Future Publishing or their relatives, no, not even the editor's brother. In fact, come to think of it, *especially* not the editor's brother.
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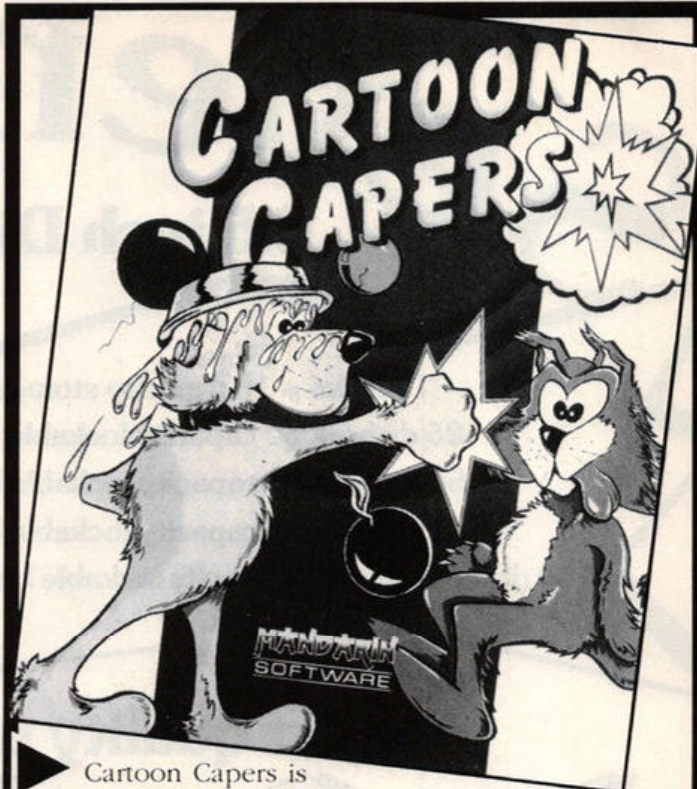
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■ Digitised stills and animation sequences from *The Wrath of Khan* in the Medway Boys' 1MByte *Star Trek* demo (see Demo Domain on the following page)

public speaking

You can pick up some brilliant software dirt cheap in the public domain. Richard Monteiro sorts out the good, the bad and the real dogs

SOKO The Other PDL

With game creators like *SEUCK* and *STOS* offering unprecedented programming power to the populace, an abundance of original home-brew games are filtering into the public domain. Many are mournful, most are mediocre – but a handful are real corkers and well worth adding to your collection. *Soko* is one of those rare high quality offerings.

It's a simple, addictive game in which you guide a little pixel man around the screen inserting boxes into cabinets. Don't be deceived by the game's apparent lack of complexity: it's all too easy to become trapped in a convoluted cabinet labyrinth without a hope of completing a level.

Each level offers an increasingly devious room layout with even more boxes for storing. *Xor* is the closest commercial counterpart to *Soko*. Although *Soko* is not in the same league as *Xor*, it's still thought provoking and challenging enough to keep you playing for hours. ★★ ★★

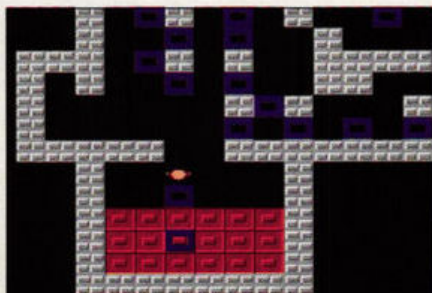
CLIPBOARD Floppyshop UTL 213

The Apple Macintosh environment supports a clipboard which is always available from the WIMP worktop and inside applications. The clipboard enables you to cut and paste text and graphic data between applications quickly and

easily. The reason this works so smoothly is that the clipboard only accepts data in a specific format – all other programs must follow suit or be damned.

Sadly no clipboard facility is available on the ST and possible guidelines for a third party affair were never laid down. Floppyshop's UTL 213 disk contains a global clipboard facility. Atari have given it the thumbs up and recommend it as the ideal way of passing data between programs. It's an excellent idea – but probably too late for software houses to adopt it now.

Everything you need to get the clipboard up and running on your ST is present. However, unless programs have been written in such a way that enables them to communicate with the thing, nothing happens. Source code is present which details what applications need to do to



■ *Soko* is a real corker; simple, addictive and a challenge to play

RATINGS

- ★★★★★ Beg, steal, borrow
- ★★★★ Beg
- ★★★ Steal
- ★★ Borrow
- ★ Burn

be able to swap data with the clipboard.

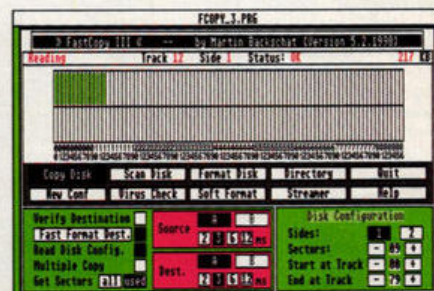
So come on software houses, why not support this Atari-approved clipboard in the next revision of your program? ★★★★★

F-COPY 3 The Other PDL

You're probably familiar with the daunting power *F-Copy 2* has to offer (see *ST FORMAT* Cover Disk 8) so it will come as no surprise that *F-Copy 3* is undoubtedly the most comprehensive PD disk utility package now available.

It still does all the usual things like copy and format disks, inspect directories and so on, but now it can also copy just the used sectors on a disk – spectacularly speeding up disk operations. *F-Copy 3* even enables you to copy from one format to another. For instance, you can copy from a disk with only nine sectors per track to one with 11 sectors per track and vice versa. Believe me, that's clever.

F-Copy now comes in two formats: Desktop accessory and standard executable PRG. It's unfortunate the operating instructions are in German, but fans of the earlier version should find the upgrade a doddle to deal with. ★★★★★



■ Spectacular speed and power with *F-Copy 3*, the best PD disk utility around

NITE

Floppyshop UTL 211

Although it's been done before, this screen blanker is very small and takes up virtually no memory. After a predetermined time of no mouse or keyboard activity the screen is automatically switched off to save phosphor burn-in. Pressing a key or moving the mouse returns the screen to normal.

The second function of the program could prove useful too. If your program hangs or starts doing strange things and you want to return to the Desktop rapidly, you can press Control, Alternate, both Shifts and Delete simultaneously. This doesn't work if the program is in the 68000's supervisor mode. ★★

ZX81 EMULATOR

Goodman GD580

Go back in time... not far. Ten years will do. Imagine the scene you're looking at. Dear, oh dear, times were really hard back then. You've got a ZX81 machine with 1K of memory, membrane keyboard, no sound generator and mono display.

Okay, snap out of it! Nightmare or what? But if you really feel the need to turn your ST's display into black and white, make the glorious three-channel sound chip disappear and turn the graphics uncharacteristically blocky, you can do it with Goodman PD's ZX81 emulator. Yes, that's right, you can turn your humble ST into an all singing, all dancing ZX81. OK, so there's no sound and the programs run at the



■ The ZX81 emulator works hard to reduce your ST to a mute monochrome tortoise

speed of an arthritic tortoise, but who cares? The ZX81 is a classic machine – the mother of the UK home micro market.

With GD580, not only do you get a wonderful emulator, but also 38 programs to play with. A ZX81 emulator might not be top of your list of desires, but it does help you remember that only ten years ago home micros were monochrome and soundless. Enjoy a cheap, nostalgic visit to the early 80's. ★★★★★

DEMO DOMAIN



■ All the exciting action from the movie squeezed onto two double-sided disks in P. Smart's *Robocop* demo – check it out, you have 14 seconds to comply!

MINDBOMB

Riverdene PDL

What a massive demo. It comes on one disk, runs on virtually any machine (including 520s and STEs) and contains 18 mini demos. The *Lost Boys Megademo* features work by themselves and a number of guest demo coders. You guide a cute character around a platform world. By stepping into a door a demo loads. In no particular order, here's a few of the best:

Digital Insanity: Dave Whittaker's music plays in the background as a number of scrolling messages spiral skyward;

Red Sector Demo: a brilliant 3D ball demo. It was thought impossible to convert to the ST, but the *Lost Boys* have done an absolutely superb job;

Parallax Scroll: a huge message that takes up almost the entire screen scrolls smoothly by;

Digital Insanity 3: it's impossible to say exactly how many scrolling messages are whizzing around, but one thing's certain – it's far too many to count!

Sinus: excellent cylindrical scrolling message and three ever-changing pixel patterns;

BBC: the Bad Brew Crew have put together an impressive parallax scrolling feat featuring numerous moving planes;

Matrix: a collection of 3D ball sprites whizz around the screen; by hitting certain keys you can change the flight patterns and speed of the moving balls. Brilliant!

Cyclic Scroll: so hypnotic that it's not wise to watch the spiralling message too long. Guaranteed to induce vertigo even at sea level Ugh!

Vector Screen: apparently this is the

hidden demo. It's not a matter of finding the demo – more a matter of getting through to it. And no points for guessing what the demo's about. ★★★★★

STAR TREK

The Other PDL

Like *STOS* and *STAC* games, there's a perpetual supply of cult film demos. The big done-to-death three are undoubtedly *Batman*, *Robocop* and *Star Trek*. Why break a habit of a lifetime? Here's yet another *Star Trek* demo.

The Medway Boys' effort isn't particularly inspired: a collection of digitised stills and two short animation sequences from the *Wrath of Khan* are all you get. Sure the pictures are pretty, but better things covering the same topic are available. Why such an ordinary offering should come on two disks and require 1MByte of memory is beyond belief. ★★

ROBOCOP

MPH Robocop Disk 1 & 2

Unoriginal topic and unoriginal concept: digitised scenes and sampled sounds from the movie *Robocop*. But to be absolutely fair, P. Smart's homage to the late Alex Murphy is very good indeed. The demo features over seven minutes of animation and sound snatched from the silver screen. Essentially, this demo summarises the *Robocop* film with all the action and exciting bits squeezed onto two double-sided disks. ★★★★★

AMIGA JOKE

Demo City 91

There's not a lot to this peculiar number. Peels of sampled laughter accompany a digitised picture of an Amiga 2000. That really is all that happens. ★

WHERE TO GET IT

Alpha Computing, 32 Meadow Drive, Halifax, W Yorks HX3 5JZ

Awesomedemos, 3 Mason Road, Seaford, East Sussex BN25 3EE

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Budgie UK, 5 Minster Close, Rayleigh, Essex SS6 8SF

Computer Connections, Ashlaw House, Euximoor Drive, Christchurch, Wilsbech, Cambs PE14 9LS

Demo City, 15 The Wynd, Dunshalt, Cupar, Fife KY14 7HE

Entertainment Soft, 11 Calbourne Drive, Calcot, Reading, Berks RG3 7DB

Floppyshop ST, 50 Stewart Crescent, Northfield, Aberdeen

Goodman PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, Staffordshire ST3 1SW

Littleton PDL, 3 Blacksmiths Close, South Littleton, Evesham, Worcs WR11 5YG

MPH, 10 Chandlers Court, Eaton, Norwich NR4 6EX

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Paradise Computers, 9 Westfield Crescent, Brighton BN1 8JB

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on Thames, Berks RG8 8BH

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South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD

ST Club, 9 Sutton Place, 49 Stoney St, Nottingham NG1 1LX

ST UK, 1 Bartholemew Road, Bishops Stortford, Herts CM23 3TP

The Other PDL, 108 Kenmare Road, Wavertree, Liverpool L15 3HQ

Wizard PD, 178 Waverley Road, Reading, Berks RG3 2PZ

Here's a selection of PD libraries recommended by readers. If we're missing any, get in touch with ST FORMAT PD Directory, Beauford Court, 30 Monmouth St, Bath BA1 2AP.

Pdom PD Atari Software Pdom PD Atari Software



Graphics

A87 - Electronic Bank Statement the excellent home accounts package from Budgie UK.

W13 - STWriter Elite V3.0, English, German and Spanish versions. Includes document files etc. This is a double sided disk.



Music



M15 - The Composer 16 Voice MIDI Sequencer. A fully working MIDI sequencer by Henry Cosh. Fully featured.

GR3 - MASTER Painter - excellent fully featured graphics program works in ALL resolutions.

A96 - Sheet v2.0. powerful all features spreadsheet, includes documentation and tutorial. This is a double sided disk.

A138 - Double Sentry V0.00 the fully working home accounting program by Graham R Hutcheon.

Pdom Clipt!

14Mbytes of clip art! Vol.1 - 5 DS disks of DEGAS images £15!, Vol.2 - 5 DS disks of .IMG images £15! & Vol.3 - 10 DS disks of .IMG files £27.50!

MP21 - TEX the document processor and typesetting system. TEX is not a wordprocessor, you will need a text editor such as Micro EMACS (disk W5). Requires 1Mb RAM and comes on 6 double sided disks with a Mega Pack price of £15.00! Brilliant package.



Application

A41 - Monochrome emulator version 5. Run monochrome programs on a colour monitor.

STW41 - FSelect v3.89 The best replacement file selector, ICone.Acc excellent Icon utility and ACache.

A52 - Hard Disk 2: FolderXXX allows upto 999 folders, an excellent directory lister, Hard Disk Install, Hard Disk Auto boot, and other HD utilities.



Demos

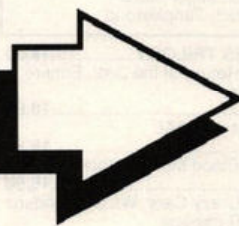
D144 - The official Atari STE demo! Only works on an STE, uses all the features of the new machine!

GR17 - Picture convertors. To and from Degas, NEO, Tiny, IMG, Spectrum, AIM etc.

A157 - Custom Formattor allows you to enter capacity required. Boot Sector Storage store many boot sectors 1 disk. Both excellent.

A134 - Boot Drive Select allows you to select a drive to boot from when you reset your ST. GrafTool and Chart Maker are 2 chart makers.

A88 - Double Click Format v3.03 THE ST disk formatter and copier. Can format Spectre 128 disks and place MSDOS boot sector.

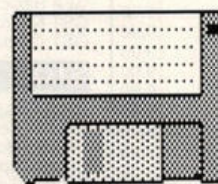


D122 - NOT STE. The Union demo! It requires a colour screen, joystick and a double sided drive. One of the best demos available.

GR20 - .IMG utilities. Convert2 IMG converts Degas Tiny, NEO, Spectrum to a .IMG format. Also a viewer and slideshow.

A121 - POOLS - Expert Results Predictor v2.3.

W5 - Micro-Emacs editor V3.925 full screen editor.



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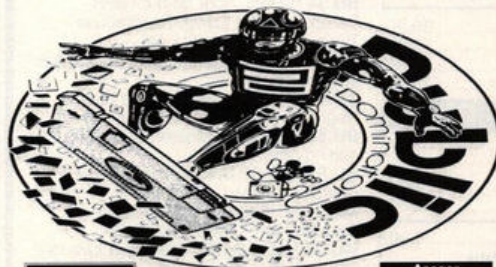
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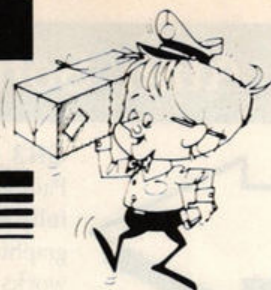


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desktop

This month in the new, revitalised, ever-so-helpful DESKTOP we show you how to build an extra ST speaker and teach it how to talk proper

In response to April issue's questionnaire (what do you mean, you didn't fill it in?), DESKTOP is now a thumping fact-filled three pages *minimum*. It seems some of you just can't get enough when it comes to hints 'n' tips, so we've decided to squeeze in more letters, more advice, and (cue drum roll), more prize money. There's a mouthwatering 50 big ones up for grabs every month! All you have to do is start writing. Tell us your ST problems and we'll find a way to solve them. And if you're the friendly, altruistic type and know a neat way round a tough problem, let us know, troubleshooters get rewarded!

Pump up the volume

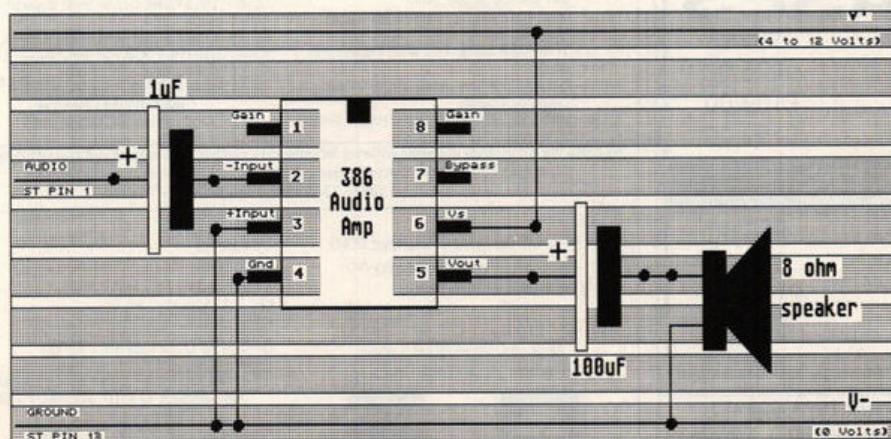
You may have noticed that the sound output of the ST isn't exactly flawless, especially if you're using the monochrome SM124 monitor. If you own an NEC multisync monitor you have to forfeit sound altogether in order to have all-resolution capability. **Colin Stone** from Manchester has designed a low-cost easy-to-build solution that can help you improve your ST's voice. All you need is a soldering iron, some insulated copper wire and a small piece of Veroboard. The electronic components required are:

- a 386 audio amplifier circuit (from Tandy or Maplins, around £1.50);
- a 1 micro-farad 25 volt electrolytic capacitor (around 15p);
- a 100 micro-farad 25 volt electrolytic capacitor (around 25p);

- an 8 ohm speaker (about 50p), and
 - a 9 volt PP3 battery, with connecting clip.
- The whole lot should cost just a couple of quid.

First check the Veroboard and make sure that the metal tracks are horizontal and on the underside of the board. Place the amplifier chip onto the board so that the small notch in the casing is pointing toward the board's top edge and then carefully insert each of the eight pins through the holes. Holding a finger on top of the chip, turn the whole lot over, keeping them together. Solder each of the pins onto the metal tracks and then cut each of the four tracks which pass underneath the chip so that none of the pins are connected to each other.

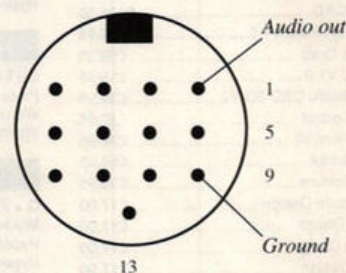
The next step is to select the 1uF capacitor and examine it. You should find that one end is marked with a plus (+) sign, or has a collar or groove around it. Holding the capacitor by its body, with the collar end upwards, carefully bend the wire which comes out of the top so that it points downwards, alongside the body. Take care not to pull it out of the casing or distort it too much. Keeping the capacitor the same way up, place the bottom wire through the Veroboard in a position about two holes to the left of pin 2 of the chip. Using a little pressure, place the other wire (the one you bent) through the board, two holes to the left of the first lead. Turn the board over to check that both leads come through the board on the same track, and that track is joined to pin 2. If all is well, solder the leads to the board and cut the track between them.



■ Want to pump up the volume? Add an extra speaker to your ST using this circuit

Repeat the above operation with the 100uF capacitor, but this time use the track which joins to pin 5 of the chip and make sure that the "plus" end lead is nearest the chip. Don't forget to cut the track between the two capacitor leads to prevent a short circuit.

The last component to attach is the speaker. Connect one speaker lead to the track which comes from the 100uF capacitor's right-hand lead. It doesn't matter which speaker lead you use, but it's important that you connect it to the unmarked side of the capacitor. Take the other speaker lead and connect that to a suit-

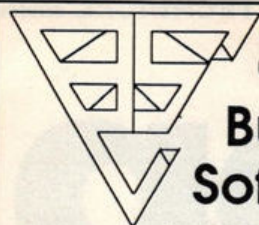


■ The monitor socket connections

able uncut track which runs all the way across the board and is not joined to any other component. This track is to be the ground or earth track. Solder the speaker in place and note the track you've chosen as ground.

As far as component fixing goes, that's it. All that needs to be done now is to join up the required connections using copper wire. Take a short length of wire and remove the insulation from the ends so that the bare portions can be inserted through the board. Connect pin 3 of the chip to the ground track by soldering one end through a hole just to the left of the pin and the other end through the corresponding hole on the ground track. Do the same to join pin 4 to the ground track using another short piece of wire. Finally, connect pin 6 to any spare track which runs across the board, above the chip, using the same method. Take a note of this track because this is to be the supply voltage track. Make absolutely sure that this track is not already connected to any other component or lead.

Connect the wires on the battery clip so the red (positive) lead joins the supply voltage track and the black (ground) lead joins the ground track. Be sure that you have the leads the right way round and on the right tracks before soldering. Don't plug the battery in just yet, since you still have to connect the circuit to the ST.



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- Connect a length of wire to the track on the left of the 1uF capacitor (the one which comes off the positive end) and connect another length of wire to the ground track near the left-hand edge of the board. These two wires are the connections to the ST.

Before making the final connections, ensure that all the soldered leads are neatly trimmed off so there are no long spikes sticking out of the base of the board. Make sure you conduct a final check using the circuit diagram to be certain everything is in exactly the right place.

If all is well take the monitor plug (making sure the ST and monitor are switched off), and slide back the sleeve. Feed the two wires underneath the sleeve (as you would a normal plug), and then connect the wire which goes to the 1uF capacitor to pin 1 of the plug, and the ground wire to pin 13. Slide the sleeve back into place and pop the plug back into the ST.

Connect the battery to the clip, power up the ST and monitor, and lo and behold you have a brand new stonking sonic speaker. If you really want to do a professional job, you can put the circuit board into a suitably sized box: the whole lot should fit into something the size of a matchbox!

Tracking down the connection

Like many ex-BBC-B owners, R. Eccles of Abingdon has been left in the unfortunate position of having a spare *Marcus Tracker Ball* and no obvious means of connecting it to his all-new, "Beeb-beating" Atari ST. Obviously possessing the kind of ingenuity and intelligence that makes *ST FORMAT* readers so famous, Mr Eccles asked if *DESKTOP* could provide him with the colour codes for all the wires in the *Tracker Ball* connecting cable so he could fit his own ST-compatible plug.

According to Marconi, the makers of the device, the wiring colours may have been changed on certain versions, so it is not safe to judge by colour alone. The only way to be sure is to remove the casing from the *Tracker Ball* and follow the wires from the large 9 pin Molex plug situated on the main circuit board. This is readily identifiable by the markings "1" and "9" on the board near the plug.

Remove the old BBC connector and replace it with a female 9 way D-type plug, tracing the wires from the *Tracker Ball* end and connecting them as shown in the diagram above. Reassemble the unit carefully and voila, new life for old kit!

Molex pin no	9 way D-type pin no
1.....	7
2.....	2
3.....	1
4.....	4
5.....	3
6.....	9
7.....	5
8.....	6
9.....	8

■ *Marcus Tracker Ball*/ST connections

A change of key

T. Murray from Hunterhill wants to know if there's a way to change the code the ESC key sends out when pressed, so he can send special characters to his printer at the touch of a button. After a long, but fruitful search, *DESKTOP* has located a utility which can help.

Available from Softville PD (☎ 0705 266509; disk ACC24), *Keyedit* runs from the Desktop prior to running your text editor and displays a mock-up of the ST keyboard and a table of all possible ASCII characters. Click on a key position, then click on the character you wish to put in that place, and your keyboard is instantly modified. You can do this with as many ➤

PICTURE PROBLEMS

After using the November Cover Disk which included loads of public domain pictures in *Tiny* format, S. Carnegie of Glasgow decided he wanted to include some in a *First Word Plus* document. *First Word Plus* can import graphics, but they must be in the GEM compatible image (.IMG) format. Using *Tinystuff* to convert the files to *Degas* format is no problem, but trying to convert these low res files into .IMG files seems, on first

glance, impossible. The most common way to convert *Degas* files into .IMG files is to use an accessory known as *Snapshot*. The bad news is that *Snapshot* does not enable low res files to be loaded while running in medium res (the required resolution for *First Word Plus* operation). Arrgh!



The only easy way around this problem is to load up your copy of *Degas Elite* in medium resolution and select Pic Type from the pull-down File menu. Change the Pic Type to *Degas* low resolution and then load in your low res picture, using load pic or load image. This takes a while as the program attempts to convert

the 16 colour palette into four. You can then save this picture back to the disk in PI2 format. This can then be utilised in *Snapshot* to produce an .IMG format picture and that (at last) can be imported into *First Word Plus*. One word of warning however: you lose a couple of lines from the bottom of the screen because *Snapshot* displays a menu bar at the top and pushes the picture file down the screen, clipping off the bottom.



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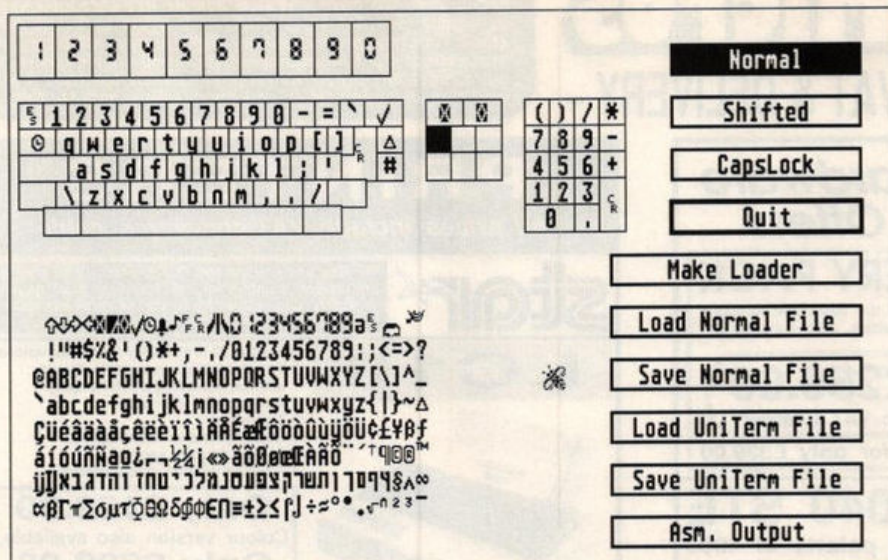
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Desktop GEM

In the pursuit of excellence with minimum effort, **DESKTOP** has uncovered several little known GEM features which make life just a tiny bit easier during file copying sessions. The first is the ability to select multiple files by holding down the Shift key when selecting icons on the GEM Desktop. This enables you to grab groups of files which may not normally be picked up by the click and drag window method. Once your selected icons are highlighted release the Shift key and click again on any one of the desired icons. Drag it to the trash can (floppy, folder, etc), and the whole lot is manipulated at once.

Another undocumented feature of the GEM Desktop is the ability to select icons or files in a GEM window which is not currently active. Normally, when GEM is using a particular window, the menu bar at the top indicates this fact by stippling the background. To activate a deactivated window you must click on it, and this deactivates the previous one. However, instead of clicking from window to window, you can select files directly in a deactivated window by holding down the right mouse button as you click on the files. For some reason, GEM does not switch the windows over, but still highlights the files requested. They can then be dragged as normal, to any active or inactive window, folder or trash can. This method even allows the Shift key trick to be used at the same time.

Thanks to **Adam Newby** from Harrogate for digging these out. Does anybody else know of any GEM shortcuts which you can't find in the ST manual?

Say it with feeling

Users of **Fast Basic's Speech Module** (£89.90 Computer Concepts, ☎ 0442 63937) have noticed that although very good, it doesn't quite match the speech quality of that talking games machine, the Amiga. Until now, that is. **Andrew Lee** from Basingstoke has uncovered several undocumented commands which can breathe life and feeling into your computer's soliloquies.

Adding a question mark (?) to the end of a word causes that word to have an upward inflection or a rise in tone, while an exclamation mark (!) does exactly the opposite and makes the word drop in tone. Don't leave spaces between the words and symbols otherwise the effect won't work.

In addition, a full stop (.) directly after a word makes the speech pause for a while, and a comma (,) causes a shorter pause.

With a little practice and perseverance it's possible to achieve lifelike speech, using the rising and falling tones to create questions? and statements! with pauses... for dramatic effect.

New resolution

Geoffrey Green from Rotherham has a gripe which all ST owners who use public domain software have had at one time or another. Geoffrey wants to know why programmers don't check the current screen resolution before executing their program?

The result is a messy, incomprehensible screen display which leaves you staring blankly at the monitor before the penny finally drops. Then comes the frustration of having to re-boot, change resolution by hand and wait for the program to rerun. And you still don't know at this stage whether or not you've selected the correct resolution!

Geoffrey has enclosed a solution which relies on the use of the operating system to detect the current resolution as soon as a program is started. XBIOS function 4 (part of the inbuilt ROM routines) sends back a number when called and this code indicates the resolution of the screen at the time of the call.

A zero denotes low resolution, one is medium and two is high. Once the main program knows this, it's a simple matter either

to continue operation or to print an alert message informing the user of the correct resolution required.

In assembly:

```
move.w #4, -(sp)
    put the function number on
    the stack
trap #14
    call the function
addq.l #2, sp
    tidy up the stack after the
    function returns
cmpi #1, d0
    check the number that was
    returned in data register
    d0
bmi lores
    if less than 1, jump to low
    resolution handler
beq medres
    if equal to 1, jump to
    medium res handler
bpl hires
    if greater than 1, go to hi
    res handler
```

In C:

```
int Getres()
{
    this function should be
    part of the header, which is
    included at the start of the source
    code with #include, and will return
    0, 1 or 2 depending on the
    resolution.
}
```

In BASIC (if it supports xbios calls, like GFA):

```
a=xbios(4)
    "a" will become either 0, 1
    or 2, and can be followed
    by a suitable alert message
    if required.
```

■ Next issue's **DESKTOP** is going to be even bigger than this month's – five stonking pages *stuffed* full of tips to help you make the most out of your ST! **stf**

£££s FOR YOUR QUESTIONS!

If you're having trouble with your ST or if you have any hints or tips which you think other ST owners will go absolutely gaga over, then send them post haste to: **DESKTOP, ST FORMAT, Future Publishing, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.**

Your incentive? Fame, dosh and a guaranteed place in heaven for anyone with altruistic intentions! There's £50 up for grabs every month; £30 for the best tip and £20 for the best question. *There's also a £500 special prize draw (see page 146) for anyone who sends in tips!* – So there's absolutely no excuse not to write.

Please don't send SAEs. We spend too much time making **ST FORMAT** look great to reply to individual enquiries, and we can only respond in the pages of the magazine.

COLIN STONE from Manchester wins the £30 for his DIY audio tip, and **S. CARNEGIE** of Glasgow gets £20 for confessing his picture problems.

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Readers may well be sceptical, but last year British astronomer Percy Seymour had the temerity to suggest we are influenced by the strong magnetic fields of the planets, thus re-asserting the link between astronomy and astrology, and causing a predictable furore within the Royal Astronomical Society.

Two software houses supply specialist astrology programs for the ST. Electric Ephemeris are newcomers, but Astrocalc have been producing astrology software since 1982. Apart from their modular series of astrology programs, Astrocalc offer an eclectic range of programs on graphology, I Ching, tarot reading and psychological colour testing.

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CONTACT: 0442 51809

Astrocalc's *Introduction to Astrology* pamphlet is written by Terry Dwyer, a qualified teacher of astrology, and it exemplifies their no-nonsense approach: "Don't confuse astrology with the rubbish found in periodicals under the title of Your Stars, or Starcast or whatever. True astrol-

a
issue 12-JULY-1988

With one eye on the ST and one eye on the stars, Phil Brahma uses two new programs to explore the ancient art of astrology

ogy does not claim great accuracy, even for individuals whose horoscopes are known, because it acknowledges the role of free will. To predict the future for a whole sector of humanity, (e.g. all Leos - one-twelfth of the world's population!) is clearly impossible."

An astrological chart is the basis of all astrological research. To analyse a chart it's important to understand the meanings attributed to the planets and to the signs of the zodiac in which they appear. According to Terry Dwyer, "Astrology is not 'fortune-telling by the stars' but 'psychology by the planets.' As will shortly be seen, the stars hardly come into it."

Astrocalc's *Astrology for Beginners* is a good place to start. The current version 2.0 is written in GFA Basic, comes on a single-sided disc, is unprotected and supports high and medium resolution monitor modes.

Clicking on the M.PRg icon loads the main menu screen and begins a series of self-testing exercises. You learn, and test yourself on the nature of the planets, the signs of the zodiac and the meanings attributed to them. You can learn, for example, that the sun is identified with power, vitality, creativity, self-expression, will-power, Yang principle, leadership, ostentation, and domination.

Your score is tabulated when you exit the

program so you can record your progress. Terry Dwyer suggests you aim for a 75% rating, which shouldn't take long.

The other half of the *Astrology For Beginners* package is the *AO Calculation Program* which includes all the details necessary to draw someone's natal chart. The positions of the planets viewed from the time and place of birth, the ascendant (the sign of the zodiac on the eastern horizon), and the aspects (the relationship of the planets by degrees) can all be printed out.

The manual leads you through the process, but you need a good atlas to look up the longitude and latitude of the birthplace. If you input

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MAIN MENU	PLANETS & SIGNS
1 Astrocalc Calculations	6 Astrocalc 1
2 Astrocalc 2	7 Astrocalc 2
3 Summerline Update	8 Astrocalc 3 (Synthesis)
4 Chartmaster	9 Harmonics Tutorial
5 Notepad	10 Biorhythms
M Hindu Astrology	11 Remark Sorter
E Ephemeris Print	12 I Ching
J Client File Service	13 Tarot
P Graphic Progressions	14 Numerology
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X Exit	17 Graphology (Handwriting Analyser)
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■ Astrology for Beginners' main menu



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5	OBJECTIVE
6	ASSERTIVE
7	FANATICAL
8	IMPRESSIVE
9	COOPERATIVE
10	POSSESSIVE
11	DISCIPLINED
12	PERFECTIONIST

Choose option E to exit to menu

■ Multiple choice self-testing in *Astrology for Beginners* is an instructive way to learn about the signs of the zodiac

Astro File Sub-File Chart Transit Synastry Display

Carl G. Jung

25.07.1893 18:26:00 +1

Sun	3	Leo	28	6	Sun	Sep	0	17	Ven	✓	Aspect Lines	F5		
Mon	15	Tau	50	2	Sun	Tri	NC	1	25	Mar	✓	Adjusted	F6	
Her	13	Can	47	5	Mon	Sat	Her	2	1	Mar	Save Defaults			
Ven	17	Can	31	6	Mon	Sat	Ven	1	42	Mar	Tri	Ura	6	24
Mar	21	Sag	22	10	Mon	Sun	Ura	1	1	Jup	Tri	Sat	8	24
Jup	23	Lib	48	8	Mon	Con	Plo	7	48	Sat	Sun	Plo	8	42
Sat	24	Mon	12	8	Mon	Sun	RSC	2	53	Ura	Tri	Her	3	5
Ura	14	Leo	43	7	Mar	Con	Ven	4	44	Ura	Opp	RSC	1	52
Rep	3	Tau	1	2	Her	Sun	Her	2	3	Her	Sat	RSC	1	13
Plo	22	Tau	30	2	Ven	Sun	Jup	6	17	Her	Tri	NC	4	59
Her	11	Br	44	2	Ven	Sat	Plo	5	59					

Houses: Koch

RSC 12: 22 Plo 33

NC 5: 5 Tau 8

MC 6: 5 Sag 45

11: 24 Sag 13

12: 14 Cap 58

Kesswill

47:18:36 009:11:19

Analytical Psychology

Psychologist

■ Carl Jung had a thing or two to say about these ancient arts. Here's the top half of his natal window from *Astrobase*

Copyright (c) Astrocalc 1990

Natal Chart

Name ? NEIL

Gmt (h,m) ? 11,15

Date (d,m,y) ? 0,7,64

INVERSION Date

Date (d,m,y) ? 7,1,64

Lat (d,m,n/s) ? 50,40,n

Long (d,m,e/w) ? 0,0,w

Gmt 11 15 Date 7 1 1964 Lat 50 40 n Long 0 0 w

OK? (y/n)

■ Take care to enter the right information first time round in the *AO Calculation Program* – it's a long way back to the start!

Astro File Sub-File Chart Transit Synastry Display

Carl G. Jung

25.07.1893 18:26:00 +1

Progressed

Jup Tri Sat 8 24

Sat Sep Plo 8 42

Ura Tri Her 3 5

Ura Opp RSC 1 52

Her Sat RSC 1 13

Rep Tri NC 4 59

Houses: Koch

RSC 12: 22 Plo 33

NC 5: 5 Tau 8

MC 6: 5 Sag 45

11: 24 Sag 13

12: 14 Cap 58

Kesswill

47:18:36 009:11:19

Analytical Psychology

Psychologist

■ The rest of Carl's natal window. As you can see *Astrobase* makes full use of the GEM environment

Natal Chart for: NEIL

Gmt 11.15 11.15 Date 7 1 1964 Lat 50 40 n Long 0 0 w

Equal Aspects

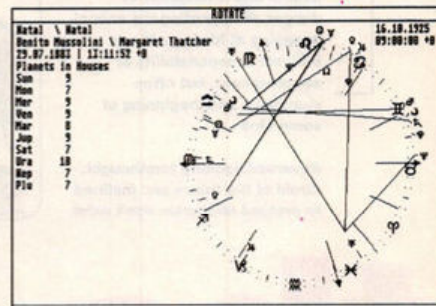
Sun	Cap	16	12	7	Sun	cjn	Her	7	Sun	sqj	Jup	5	Sun	tri	Ura	6	Sun	ext	Rep	1
Mon	Lib	25	9	4	Sun	tri	Plo	2	Mon	tri	Her	7	Mon	sqj	Her	6	Mon	tri	Sat	4
Her	Cap	9	30	7	Her	sqj	Jup	2	Her	tri	Ura	8	Her	tri	Plo	5	Her	cjn	Sat	3
Ven	Mon	18	18	8	Ven	sqj	Rep	1	Sat	sqj	Rep	4	Ura	cjn	Plo	4	Rep	sqj	Plo	3
Mar	Cap	25	29	10	Jup	tri	11	18	18											
Sat	Rep	22	11	10																
Ura	Tri	9	56	7																
Rep	Sat	17	28	10																
Plo	Tri	14	14	10																

Asc Can 8 23

Mc Rep 24 36

Gen Natal Chart Print Quit

■ What you see is what you get. Now draw up your own chart, which is as far as you can go using the *AO* program



■ Rotating the comparative charts of two politicians can produce some quite startling results...

➤ the wrong data it's impossible to go back and change a data field until after the final entry. It's annoying, but, considering the educational value of the package, forgivable. Despite the fact that it's a basic program, and graphically uninspiring, for anyone wanting to make a preliminary investigation into the subject, this is undoubtedly the program to go for.

If you're interested in delving deeper, *Astrocalc* offer a series of upgrades. A1 gives natal calculations with greater accuracy, includes the astrological symbols, the chart wheel, declinations, heliocentric positions, distance values and lots of other options. For most people the A1 (£17 extra) to A3 (£50 extra) modules are perfectly adequate for their needs. For the more professional, or those who want to seriously investigate the subject the upgrades go right up to A20 (£142).

The A8 module (£77) has dull graphics and totally disregards the WIMP environment. These damning factors are a legacy of the inferior machine it was transferred from. It also has an irritating desire to crash unless you pander to

its every whim. Choose a program not currently available on the disk or accidentally enter the wrong data-type and there's a high risk of crashing. *Astrocalc's* Colin Miles is the first to admit the problems they've encountered in converting their programs for the ST, but ST owners really expect much more for their money.

Astrobase

MACHINE: ALL STs

PRICE: £59

FROM: ELECTRIC EPHEMERIS

CONTACT: 071 435 4619

Astrobase (v1.1) comes on a single-sided, unprotected disk, works in high or medium resolution and has a comprehensive manual which you'll probably never need to refer to. Aimed at the serious enthusiast, its new reduced price tag of £59 is certainly money well spent. Even when the program cost double that amount, its comprehensive array of features still offered good value for money.

At the start of the program an Item Selector box offers you the choice of loading Atlas or Chart files. The Chart 1 files include the natal charts of famous politicians, explorers, artists and scientists. By choosing Radix from the Chart Menu you can easily enter your own birth details into the dialog box and appear alongside the likes of Winston Churchill, Buzz Aldrin, William Blake and Nostrodamus.

The Chart display is your workbench and forms a permanent background as you call up Chart windows. From the Chart Wheel screen some particularly useful functions can be accessed by using the function keys. F1 enables you to define orbs (the angles within which planets are considered to be aspected) up to a maximum angle of 9.9 degrees, or to remove planets or aspects from the display chart. These options are also available from the Set Aspects function in the Chart menu on the

main screen. The F2 key allows you to rotate a chart, and actually see the moving cycles of the planets in multiples of days, weeks, years – or even in real-time.

The Synastry menu enables you to produce "double charts" that show the planets of one person on the inside of the wheel and the planets of a second person on the outside – enabling you to compare your fortunes with your boss/girlfriend/dog and realise where your shortcomings are.

There are user definable aspects and orbs and ten different house systems to experiment with, so you'll be relieved to know that your favourite set-ups can be saved to disk as default values.

Astrobase adamantly refuses to crash, due no doubt to the error boxes that appear if you enter invalid data. The program even alerts you if you quit without saving. With its user-friendly environment and reduced price, *Astrobase* should popularise the ancient art of astrology and invest it with the acceptability of a popular science. **stf**

FORMAT RATINGS

ASTROLOGY FOR BEGINNERS/
£12.50/Astrocalc/0442 410709

Features 73%

Rigorous self-testing options to drum in the basics, but graphically uninspiring

Speed 85%

Fast, but then it's a very basic program

Ease of Use 71%

No undo function – make a mistake and you have to go all the way back to the beginning

Results 84%

Excellent educational introduction to astrology. Upgrades are available if you want to delve deeper

FORMAT VALUE 83%

It's cheap (and it looks it) but it does the job

FORMAT RATINGS

ASTROBASE/£59/Electric Ephemeris/
071 435 4619

Features 95%

Astonishing array of features and favourite set-ups can be saved to disk

Speed 90%

Fast – function keys make it even faster

Ease of Use 95%

No matter how hard you try, the program just won't let you make a mistake!

Results 85%

Produces highly detailed natal charts and enables you to printout natal charts of famous figures

FORMAT VALUE 90%

Tremendous value and its price has just been halved



The Hanged Man has, perhaps willingly, put himself at the mercy of others. It indicates submission to duty, putting others first, and relying on others to resolve situations. Perhaps a difficult initiation or probationary period

Reversed: unkept resolutions, broken promises, good intentions which go wrong. Kindness taken advantage of



The Fool responds passively to events and is heedless of danger, disregarding the animal snapping at his legs. It can indicate irresponsibility or abandonment, but often signifies a new beginning of some kind

Reversed: lacking forethought, afraid of the future and inclined to pretend obstacles don't exist



The Priestess signifies non-rational, natural wisdom, probably from a female source. Light may be cast on a problem, perhaps psychically. The Questioner may have to wait before full understanding of a situation dawns on him or her

Reversed: hypocrisy, false offer of help, laziness, hostile moods. Emotional outbursts which should not be reciprocated

the big deal

Tarot

MACHINE: ALL STs

PRICE: £25

FROM: ASTROCALC

CONTACT: 0442 51809

The mystic practice of tarot reading goes back centuries. Now it's arrived on the ST.
Phil Brahma deals the cards

If the oldest known tarot cards are the 17 hand-painted cards of the so-called Charles VI pack, dating from the late 14th Century, then Astrocalc's pack is undoubtedly the most modern. Astrocalc's Tarot gives the reader the choice of 12 spreads, from the traditional Horseshoe and Celtic Cross to modern spreads such as that suggested by Carl Jung, who saw in the cards universal symbols of the individual's psychic development.

Hit the keys at random to shuffle the cards and then hit the Space bar to see the spread. A brief interpretation of each card displayed in your spread, provides a good introduction to this ancient art.

Established ritual is followed when indicated by certain spreads, so you may be asked to select from three piles of cards the one to be dealt by the ST. You can choose whether to

use the major cards only or the whole pack, and whether or not a significator card is to be used in the spread.

To choose a card, type its number as it appears in the spread and depress the Help key to view it. After a pause of several seconds the card appears in colour on the left of the screen and an in-depth interpretation appears on the right.

There are at least as many schools of thought governing the interpretation of the cards as there are different packs of cards available, but the major problem is that the meanings of cards are generally thought to change according to the influence of their neighbours. Tarot ignores this important convention.

There's little more to Tarot than meets the eye. The pictures don't show the astrological correspondences associated with many tarot cards, although they are classical in design and

do look jolly on a colour monitor.

Only the 22 cards of the Major Arcana are used in Tarot, so experienced readers are unlikely to take this program very seriously – especially as there's an understanding among them that interpreting your own spread is pretty bad news psychologically. Newcomers will welcome the tarot-as-entertainment approach; it's certainly good fun, and it is possible to have a deeper understanding of the cards in time. Dim the lights, suspend your disbelief, and pick a card, any card... **stf**



■ Tarot uses the Major Arcana: many tarot readers have traced elements of astrology, alchemy, Egyptian mysticism, and even Hebrew Kabbalism in the design of the cards

FORMAT RATINGS

TAROT/£25/Astrocalc/
0442 51809

Features	70%
Offers a variety of spreads, brightly coloured graphics, and a brief interpretation of each card	
Speed	60%
Takes painful seconds to call up each card	
Ease of Use	95%
There's nothing to it	
Results	65%
Interesting results, but accuracy and variety are negated by ignoring the effect of neighbouring cards	
FORMAT VALUE	60%
For the cost of the program you could buy two tarot packs to add to your collection	

The Competition

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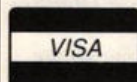
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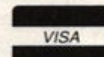


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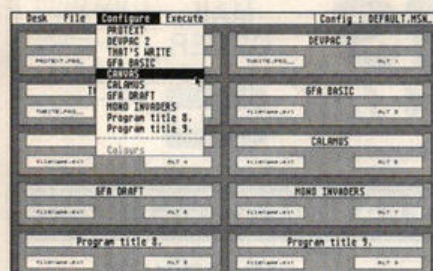
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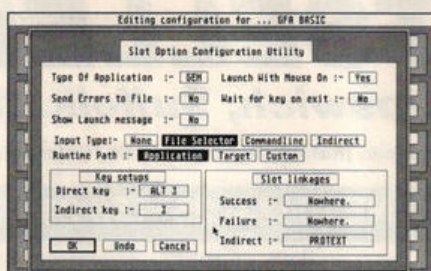
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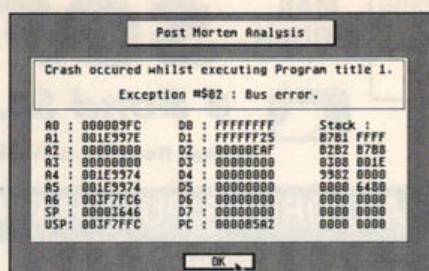
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You're doubtless aware of the scenario. Countless regularly used applications are scattered in various folders and partitions. No matter how well you organise your disks or hard drive, the frustration at not being able to exit from one program and quickly launch into another is wearing.

Coders are more familiar with the mouse shuffle round the Desktop than most. They move from a text processor to produce source, on to a compiler to produce object code, then to a linker, next to a debugger and back to the text processor when things don't work out. Similar parallels can be found in most activities: DTP, animation, music. No-one is safe.

ST addict and US Gold programmer Bob Armour got fed up with this hassle and wrote *Mission Control*. By pressing a pre-defined key from within the program, you can run an application of your choice. There's no partition or folder to remember and no delay looking for the file.

As well as running programs from user-selectable hot keys, *Mission Control* enables you to pass environment variables, command line headers and command line tails to programs. GEM programs do actually possess the ability to pass variables to, and accept parameters from, other programs – sadly this facility is much underused.

WHO'S THAT MAN?

Mission Control author Bob Armour is probably known to hardened gamers as the former Gremlin programming guru. Since being poached by US Gold, he's been working on Atari 7800 games which are all shipped to the States because Atari have bodged the console's UK release.

Bob works with a Mega ST running Atari's proprietary combination 6502/68000 assembler, with a lead from the ST to a 7800 RAM cartridge and downloading software. *Mission Control* was written to speed up and ease development.

ters from, other programs – sadly this facility is much underused.

Mission Control offers ten slots, or hot keys, for storing information about file locations. Slots appear as boxes and contain the name of the program, the key which launches the program and a command line (like the name of a data file) that's passed to the program on execution. Everything is user configurable.

mission position

Richard Monteiro reports from Mission Control on the ultimate time-saving application hopper

Command lines enable you to pass parameters to a program that's about to be executed. For instance, when using *First Word Plus* you can supply a filename which *First Word* attempts to load as soon as it has been run. Similarly, you can supply *ST BASIC* with a filename is automatically loaded. Almost all GEM programs offer this facility, but unless you've used a CLI (command line interpreter) it's possible you never knew about this feature.

Configuration data for each slot is divided into two types: text and toggles. From the text configuration menu it's possible to add an application name, application title, input dialogue prompt, command line header, command line tail, environment and custom defined runtime path. It sounds complicated, but you only need to employ the most basic facilities to reap *Mission Control*'s benefits.

Determining which application to assign to a hot key is easy; a file selector appears requesting you simply to click on the desired file. From the options configuration menu you can determine what sort of application to run (GEM or TOS), where error messages should be sent, which hot keys launch an application and whether slots interact with one another.

Interactive slots are incredibly useful. Say you're in a text processor editing an assembler source file and decide to quit. *Mission Control* shunts you straight into the compiler where you can compile the program you were just editing. If errors are reported, *Mission Control* can be programmed to take you back to the editor. Assuming things go according to plan, you can get *Mission Control* to take you on to the debugger for a final check. Similar constructs can be applied on exit from the debugger.

The major criticism of *Mission Control* is that it doesn't work in low resolution. As a developer, Bob Armour should have recognised the need to flip between low and medium resolutions. The way *Mission Control* works also means it's not possible to tinker about on the Desktop and launch a program by hitting a hot key. You have to remain inside *Mission Control* the whole time.

GFA say a terminate-and-stay-resident and low resolution colour version of *Mission Control* is in the pipeline. Those gripes aside, *Mission Control* is incredibly useful for time-conscious application hoppers and remains a very handy developer's tool. **stf**

FORMAT RATINGS

MISSION CONTROL/£29.95/GFA Data Media/0734 794941

Features 89%
Excellent facilities for jumping between programs, but low resolution not catered for

Speed 92%
Nothing processor intensive to slow things down

Ease of Use 82%
Application hopping is a doddle to implement – CLI and interactive options are tricky for the beginner

Results 81%
Best used as a development tool. A terminate-and-stay-resident version would have been welcome

FORMAT VALUE 79%
If used to its full, *Mission Control* is worth every penny. However, many of its powerful features might be dropped in favour of simple program jumping – which makes it less of a bargain

The Competition

There's no competition so directly targetted at developers

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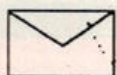


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Sozobon C

Some people already have Sozobon compiler disks from public domain libraries and naturally don't want to buy them again. If you can't get the examples using one of the other Sozobon C packages (and lots of people can't) you probably have a limited package. Look for Ian Lepore's *GEMFAST bindings* version 1.20, David Brooks' *FPLIB floating point library* version 2.0, Dale Schumacher's *runtime library* version 1.20, and GULAM adapted for the United Kingdom keyboard. There's a lot of configuration to do before you can actually compile anything, and don't expect to save much money after you've bought the extra bits you need. The *ST FORMAT* edition (see the special offer on page 144) saves you a lot of hassle.

If you're still determined to piece together your own diskettes from public domain libraries, this month's Cover Disk contains a complete disk directory listing for each of the *ST FORMAT* Sozobon C diskettes, and a copy of the special *ST FORMAT* GULAM.G file. Don't say we don't help!

RAM disk confusion

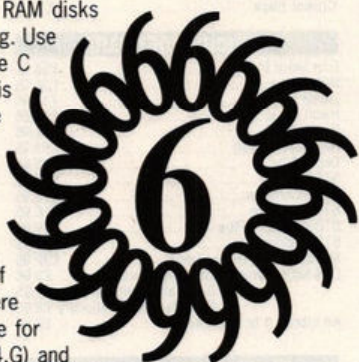
A few people are confused about RAM disks and the different versions of gulam.g. Use a RAM disk to store files which the C compiler accesses frequently. This is done for you by one of the GULAM.G files provided.

When it starts, GULAM looks for a file named gulam.g in the current folder; if found GULAM then obeys the commands therein. I provided three versions of GULAM.G, one to be used when there is no RAM disk (GULAM000.G), one for a small 64K RAM disk (GULAM064.G) and one for a large 384K RAM disk (GULAM384.G).

To customise the package:

- 1) Create a RAM disk of the required size (if you are using the supplied RAM disk accessory, remember to select this from the menu).
 - 2) Replace the GULAM.G file with the one for your RAM disk size. Drag GULAM.G into the trash can; then drag GULAM064.G (for example) onto itself. When you get an alert box telling you there is a name conflict, backspace over the destination file name and change it to GULAM.G.
 - 3) Double-click on GULAM.PRQ.
- GULAM then frequently copies the files

in C # program



which the compiler accesses to the RAM disk named "M." More files are copied over for the 384Kb variant than for the 64Kb variant. If you use the RAM disk to store your C source, this is even faster, but you run the risk of losing your program if the machine crashes, so make backups frequently.

All the supplied versions of GULAM.G check to see whether a RAM disk is installed, and if there isn't they adapt accordingly. So GULAM064.G works just as well as GULAM000.G when there isn't a RAM disk.

Using a RAM disk leaves less RAM for compiler work space, so unless you have heaps of RAM, expect more "malloc failure" messages.

Obscure messages

For those who've already received this message and not understood it's meaning, "malloc" stands for memory allocation and "malloc error" means there's not enough memory available. Try splitting up your program into small separately compilable modules using a smaller RAM disk, discarding desk accessories, investing in a RAM expansion or a combination of all of these.

Backing up

If you have an extended disk formatter such as *DC Format*, you can copy the contents onto one extended format disk, otherwise just copy the files across two standard format diskettes. ➤

POSTBAG

C programming is a tad more difficult to learn than BASIC, LOGO or assembly language, so be prepared to invest time experimenting and to find other sources of information such as the library, or a good bookshop. Before admitting defeat remember that the more effort you put into trying to solve problems the more you learn.

If you really are stumped, we can't promise an individual reply, but if you write to Warwick Grigg, *ST FORMAT*, Beauford Court, 30 Monmouth ST, Bath BA1 2AP and provide as much information as possible, we may be able to help. Please enclose a stamped addressed envelope and your telephone number. Please note that direct telephone calls to the *ST FORMAT* office cannot be accepted.

Having problems getting stuck in? Warwick Grigg dips into the postbag and answers your questions in this month's special C language workshop

Faster code

What does "register" mean? Very few high level languages have this useful feature. If you have an integer variable or a pointer variable which is declared in a function and used frequently, declaring it as a register variable usually generates faster and shorter code. If you haven't guessed, the compiler stores the variable in a register, so it can be referenced quickly. As a classic example:

```
int strlen(s) /* calculates length
              of a null terminated
              string */
char *s;
{
    register char *p;
    register int i;

    p = s;
    i = 0;

    while (*p++ != '\0') {
        i++;
    }

    return i;
}
```

This function is much faster (and the compiled code much shorter) than when you omit "register" from the declarations. Who needs assembly language?

The disadvantage is that because you're limited by the processor's registers, you only

SOZOBON C

ST FORMAT is offering a special compilation of this powerful PD version of C. The package consists of two double-sided disks containing PD Sozobon C compiler (conforming to Kernighan and Ritchie specification, an accepted standard); GEM bindings; library functions; Gulam shell; and RAM disk.

The first disk is ready to use straightaway. The second contains the documentation and compiler source code. See the special offer on page 144.

have about four integer register variables and four pointer register variables per function. You're also unable to take the address of a register variable; it's a limitation of almost every processor yet invented. Finally, register variables are pushed onto the stack before every function call and popped off afterwards, so if your function contains lots of function calls, register variables may actually generate slower code!

Disinformation

There was a misprint in tutorial #4. To change the Sozobon files to look at drive B: edit the gulam.g file by typing:

ue b:\gulam\gulam.g

and change all occurrences of a: or A: to b:. Then save the file.

Case sensitivity

The gulam shell and the C language itself are case sensitive, so make sure you use upper case and lower case characters exactly as specified in the tutorials.

Staying single

If you're using a single-sided disk, according to reported successes, the trick is to put GULAM on one diskette and a cut down Sozobon compiler on the other. After executing GULAM.PRG from one disk, replace it with the Sozobon disk. Only try this if you are prepared to invest a lot of time getting it to work.

Strange requests

If you get a request for insertion of diskette M: when no RAM disk is installed, try replacing your GULAM.G file with the new experimental GULAM000.G file on this month's Cover Disk.

No trash can

In medium resolution the trash can is obscured by the RAM disk! Simply drag the trash can to a vacant position on the desktop and it becomes visible again.

■ I'd like to hear from anyone who's written useful C programs using the Sozobon compiler. Next month we'll take a look at some of the easy keywords like "case," "break," "for" and the dreaded "goto!"

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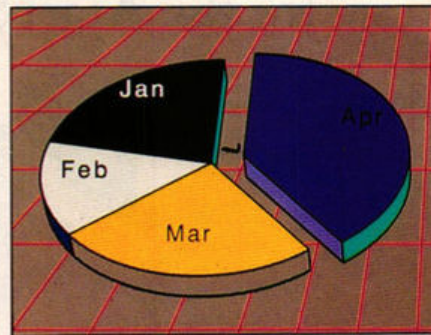
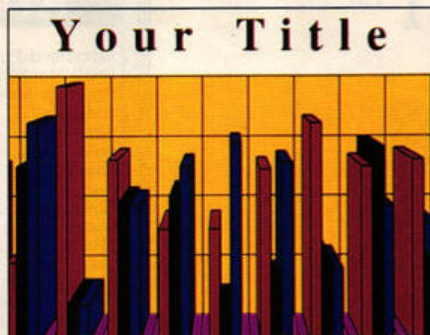
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Like similar packages for the Macintosh, it offers multiple display fonts of various sizes and styles through GDOS and uses GDOS printer drivers to support a wide range of printers. It even outputs colour slides when created under a monochrome system.

Slides are the basic operational unit and are built in an object-based graphical environment which enables previously placed text or graphics to be moved, re-sized or re-positioned at will. What's impressive is that data can be

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As a timesaving utility Hyperchart has considerable benefits. A great deal of numerical presentation work is repetitive. Marketing analysis from one quarter to the next uses exactly the same presentation structure, only the data itself changes. Having to recreate a new presentation every quarter when only the figures are changing is a time consuming exercise.

Davalation (a Hyperchart term) is a time-saving facility that re-generates graphs from an original slide and updates external files. Thus if a particular graph in a slide is based on the sales figures entered in a LDW Power worksheet in March 1990 for example, Hyperchart re-reads the worksheet and regenerates the graph when you wish to update the slide in April. In a large presentation consisting of multiple graphs, the time and effort saved can be considerable.

Hyperchart's weakness is its inability to include graphics created in an earlier presentation. Although metafiles can be incorporated, their manipulation is severely limited compared to even a basic DTP application. There's no facility for incorporating bit image files, and the possibilities for improving the presentation with

additional artwork or clip art are also limited.

Soft Image, the software house behind Hyperchart, run a bureau service for the creation of 35mm colour slides. The program creates GEM files, which are then converted into PC files at Soft Image. They use an £8,000 Agfa Matrix PCR Camera – a device that plugs into the host machine – to take a high-resolution picture of 4,000 lines per slide.

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GOING SOFT

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The colour increase is more complicated. Using the standard ST colour palette would render any increase impossible. Hyperchart uses an alternative method that supplies the percentage of red, green and blue making up a colour instead of supplying absolute colour indexes. When transferred to a larger palette display the percentages can then be accurately re-mapped.

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harlekin

Offering 16 utilities in a single program, Harlekin just might be the ultimate Desktop accessory. Richard Monteiro puts it to the test

Harlekin

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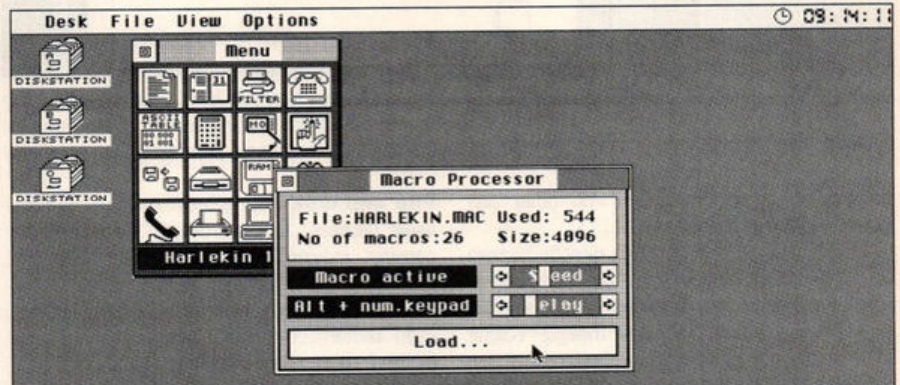
If you use your ST for word processing, DTP, CAD, animation, program development and accounts, you spend an inordinate amount of time jumping from one application to another. You may, for instance, spend most of your time in Calamus but emerge frequently to format a disk, write some copy using a decent text editor, recover a corrupted file or perform a mathematical calculation.

There are numerous Desktop accessories – many of which are in the public domain – that offer one or two of the utilities you might use regularly. But with the ST only having six accessory slots, you soon start wishing for a greater selection and cursing the ones you've installed.

Short of buying an expensive and unreliable multitasking operating system for your machine, the next best thing is having all the utilities you need in one enormous accessory. Step forward, Harlekin.

The good news is Harlekin offers 16 powerful utilities from a single accessory slot. The bad news is that it only works in mono and requires 1Mbyte of RAM. A colour version is already available in Denmark and was shown at the recent Atari show. It costs the same as the mono version, and is due for release later this year.

Harlekin is installed like any other accessory. When selected from the Desk menu, a box appears containing icons of the 16 utilities.



■ The macro processor enables you to assign a sequence of codes to the keys

Included is a text processor, scrapbook, printer filter, comms program, ASCII table, calculator, memory and disk monitor, macro processor, file utility, disk management pack, RAM disk, clock, RS232 definer, spooler, control panel and system status.

The text editor is surprisingly sophisticated and very fast. It makes *First Word Plus* look ridiculous and manages to outpace *Protext* in most departments. Features include block cut, copy and paste; search and replace; headers and footers; file size limited only by available RAM; and keyboard shortcuts. In fact the only glaring omission is any form of justification.

There isn't anything close to Harlekin's

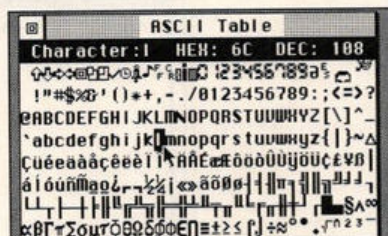
scrapbook on the ST. There are no hard and fast rules regarding use of the scrapbook – it's designed to be as close to its loose leaf equivalent as possible, and is consequently very flexible. For instance, you could store schedules,

dates, deadlines, birthdays, events, telephone numbers, addresses, letters, cooking recipes, program source files and so on. The scrapbook can be used as a word processor, database, even a spreadsheet.

By using the printer filter in Harlekin you can capture characters sent from the ST and, should it be necessary, translate them to something the printer understands. There is no standard for characters above ASCII 127 and consequently your ST's character set is unlikely to tally with the printer's set. For instance, the ST's degree symbol is character 248; your printer's may be 220. By using the filter you can intercept character 248 and change it to 220 so you get on paper what you see on screen.

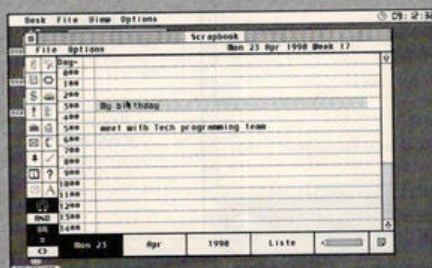
The terminal program or VT52 emulator lets the ST communicate with other computers via a modem or suitable cable. Only ASCII and Xmodem transfers are possible – Kermit would have been handy.

The ASCII table enables you to quickly discover the values of characters above 127 and insert them into the Harlekin text processor. This works even though the characters may not be available from the keyboard. Sadly it's not

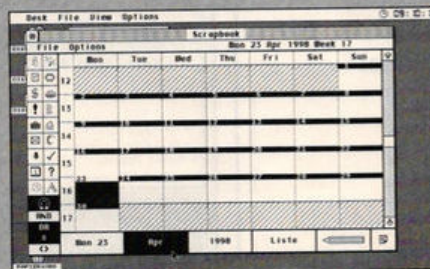


■ The ASCII table is an invaluable tool for programmers

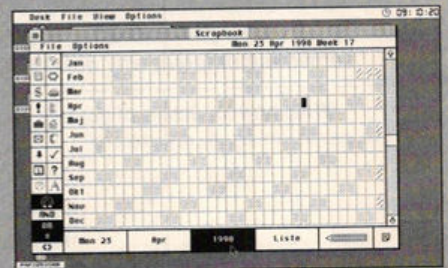
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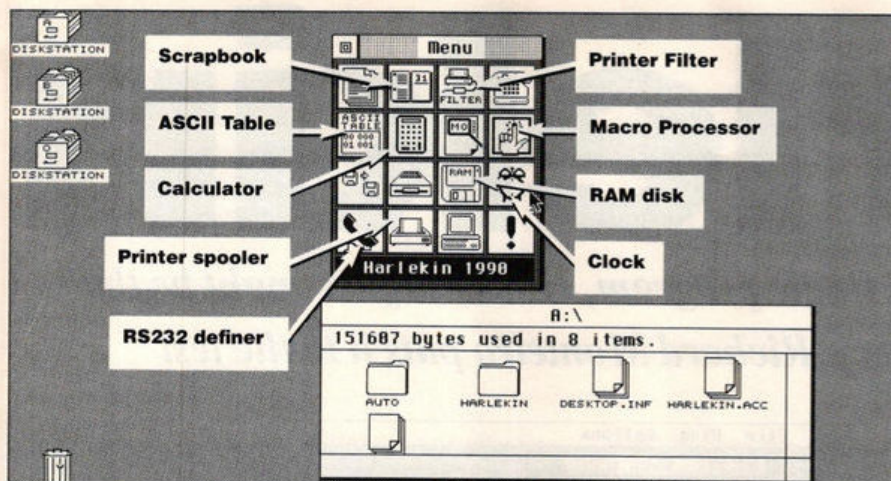
■ The scrapbook is only limited by your imagination. You can use it as a diary...



... or as a monthly calendar where notes can be attributed to special days...



... or as a year-planner where you can highlight dates through the whole year



■ Harlekin offers 16 resident modules. Once booted it changes the standard ST font to look like a Mac

possible to insert characters into other programs using this technique.

From the monitor you can directly change bytes on disks (floppy, hard or RAM) and in memory. If you work with files, the complete program resides in memory making editing fast. A good search facility means you can quickly get to the part of the disk or memory you want.

The macro processor enables you to assign strings of characters or commands to keys. The obvious keys to assign macros to are the function keys. You could, say, assign all the keypresses required to save a document in

Calamus and then exit to F1. It's a shame the macro processor doesn't enable applications to be launched by pressing certain keys.

File and disk management sections offer the usual facilities: folder creating; file and folder copying, moving, deleting and renaming; and disk copying and formatting. An excellent option exists which makes it possible to copy just the used sectors on a disk. Annoyingly there's no facility for formatting PC-compatible disks.

Harlekin's RAM disk is excellent. Not only is it reset proof, but it can be forced to load a selection of files into itself on boot up.

There is so much to Harlekin that's good. Never has so much been offered in a single accessory program. In many ways it tries to emulate the Apple Mac's approach. For

instance, the default font is the same as the Mac's and menus are pull-down rather than drop-down.

For speed, ease of use and accessibility, Harlekin is the ultimate Desktop accessory. **STF**

■ In next month's issue ST guru Andreas Ramos, author of *Your Second Manual* (see *STF 11*), offers exclusive hints and tips to show you how to get the most out of Harlekin's extensive features.

FORMAT RATINGS

HARLEKIN/£49.95/HiSoft/
0525 718181

Features 93%

Contains almost everything you'll ever need in an accessory – but no colour support (yet)

Speed 95%

Written in assembler; it's fast

Ease of Use 82%

Proprietary file selectors and pull-down menus could confuse beginners

Results 91%

Excellent: does everything it claims it can

FORMAT VALUE 89%

You could pay three times as much for programs offering only half of Harlekin's features, but that still doesn't make it cheap

The Competition

Microdeal's *Utility Plus* (£29.95) is the closest, although it contains numerous stand-alone programs ☎ 0726 68020

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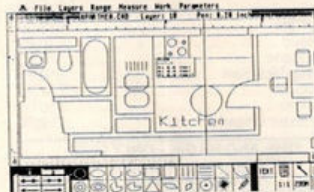
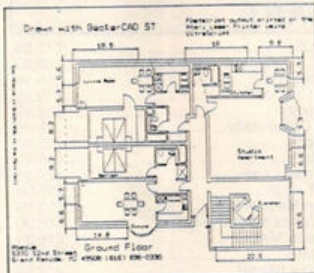
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Keynote's *Chameleon* is an excellent program that enables the owners of MIDI synths to organise Voice data into libraries which can be saved onto disk (see review in *STF* 6, page 111; *FORMAT* rating 85%). Because it can handle all modern MIDI devices and comes with the correct configuration files for hundreds of different synths, it's become popular with users of up to the minute instruments. With major manufacturers like Roland, Yamaha and Casio releasing new models every few months, configurations are constantly being written for *Chameleon* so that it works with all the latest gear.

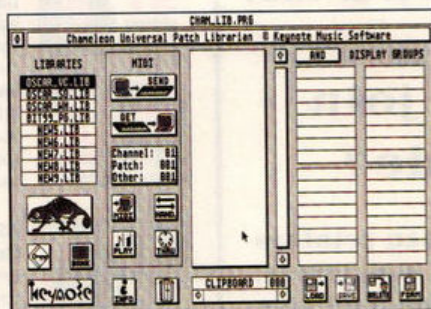
But what about the antiquated MIDI equipment of a few years ago: does the cute multicoloured reptile cope with these dinosaurs as well? Being the proud owner of two such ancient beasts, I decided to put the claims made by Keynote Music Software to the test.

My old OSCar is a monophonic synth that plays just one note at a time, unlike the modern polyphonic synths that can play a number of notes simultaneously. But it has a truly awesome sound, better even than the legendary Moog, and it has real control knobs for each voice parameter, making programming a pleasure. Until now, the only way to store Voice and other data from OSCar was onto cassette tape, and just like loading and saving data from the old ZX Spectrum computers (remember them?), this method is fraught with problems.

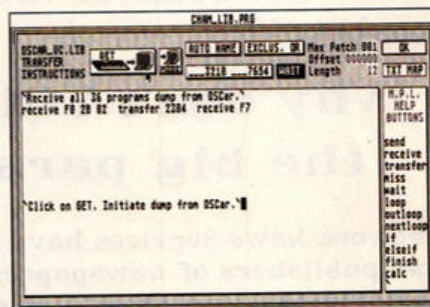
Nobody has bothered to write any specific software for these older synths, so I was pinning my hopes on *Chameleon*. Disappointment: no configurations for either my Bit 99 or OSCar synths. But since I had copies of the manuals, Keynote's boss Ian Patterson offered to write

*Bob Cowan awards
Chameleon an oscar
for breathing life into
a couple of supposedly extinct synthesisers*

track to the future



■ **Chameleon can auto-load up to nine libraries for different instruments and operates as a Desk Accessory from within any MIDI sequencer program**



■ **The simple programming which causes the ST to request a MIDI dump of the OSCar's Voice data. A major update of Chameleon is due out later this year**

configurations especially for me, and almost by return of post, a free demo disk arrived. Loading it up, the opening screen confronted me with libraries for my OSCar and Bit 99!

All the factory sounds are now safely stored on disk, and I can start to write some alternative ones. *Chameleon* has an inbuilt programming capability which enables you to write the configurations for transferring MIDI data from different instruments yourself, but with a free service like the one offered by Keynote, why bother? Ian Patterson tells me that there are now only a handful of MIDI devices not covered by *Chameleon*, and as soon as a request for one is received, and provided the appropriate data can be found, it gets written post haste, filling in yet another tiny gap in *Chameleon's* impressive armoury.

Trial and error may be necessary if you have a really exotic synth, but I was impressed that the OSCar configuration worked first time, all the more so since there had been no synth available at Keynote for any tests to be done.

Chameleon's reputation is continuing to grow. A number of companies such

as MIDI Music that sell synth Voices for musicians too busy or too lazy to program their own (in other words, almost all musicians!) are now providing them in *Chameleon* format. This must be the best way to obtain new Voices, since they can be merged in with your existing

SOUND MOVES

Synth Voices for most popular instruments are available from Midi Music (☎ 0793 662108) and Stiletto Sound Systems (☎ 0387 65276).

collection, and can be sorted and selected via the many options provided by the program. When you go into a music shop they never ask you what type of computer you have: they know it will be an Atari ST.

By the same token, although *Chameleon* is quite a new program and not universally known yet, it may well become the librarian application in MIDI music circles. The major update due for release later this year will add the ability to re-program your Voices from within *Chameleon*, making it two programs in one. Now all I need is a program that enables me to play my various synths properly! **stf**

■ **The full review of Chameleon appeared in STF 6, page 111, and was awarded a Value Rating of 85%. Look out for the review of the major update mentioned above, coming soon to these pages!**

■ **Bob Cowan's venerable OSCar - magically revived, thanks to Chameleon!**

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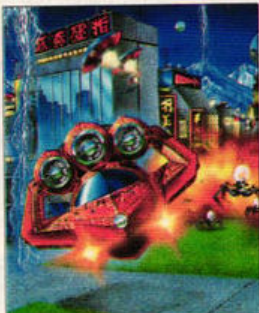
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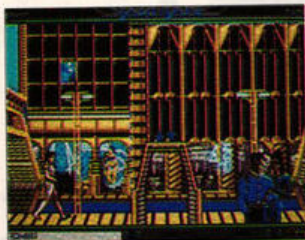
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Learn to Read with Prof**SKILLS:** READING**AGE RANGE:** 4-9 YEARS**MACHINE:** ALL STs**PRICE:** £29.99**FROM:** PRISMA SOFTWARE**CONTACT:** 0224 326244

Prof Plays A New Game is the first of 12 reading tutors written in STOS and produced by Prisma Software in the Learn to Read with Prof series. Prof plays a New Game consists of:

- A story program disk which is accompanied by an audio cassette tape
- A learning game disk
- Five, 24 page, illustrated reading books

When the package is first used, load the story disk into the computer. This program is synchronized with the story on the audio cassette which is superbly read by Patricia Hayes.

The story and graphics introduce the game to be played on the second disk. Initially the screen shows a computer keyboard and encourages children to practice using the main keys that are needed in the game (the spacebar and arrow keys). Prof, a jolly little character who can't fail to appeal to children, is introduced at an early stage and the child is encouraged to practice moving him around the screen. This is an excellent way to introduce a package. The immediate appeal of the story and its graphics makes children want to dive straight into the action.

The second section consists of the game disk and accompanying books. There are five "steps" for each book so the game is effectively played on 25 levels.

The screen is divided into two areas: a large set of boxes to the right, any of which may contain a word or a person; and a single column of boxes to the left, one or more of which contain words. The two areas are separated by a ladder.

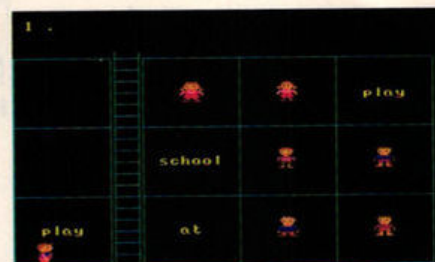
The learning game starts with book one, step one. Book one introduces nine words (I, play, school, at, and, home, can, you, am). Initially only one of these is shown to the left of the ladder. The child moves the Prof to this word and then presses the space bar. The word changes colour. Then he or she moves the



■ Story screens are bright and colourful and introduce simple words



■ This screen appears between games promoting a scholarly image



■ Pick up the word on the left and match it with the one on the right



■ The words become progressively harder and numerous as the games progress

electric bookworm

With the help of a cute professor and a cassette David Jones learns how to read all over again

sprite to the square containing the relevant word to the right of the ladder and repeats the process. If the task is successfully completed the Prof jumps up and down. As the sequence of right answers are given, the child is rewarded by little people being placed at the top of the screen.

The game is based on repetition of words and continuous reinforcement. I found the best way to play the game at an early stage was to ask for the word to be said (or repeated) every time it was selected. I suggest following this tactic as each new word is introduced. As the game progresses the number of words on screen is increased, making selection increasingly difficult.

Even in the first book children are encouraged to read simple sentences such as "I can play at school and at home." Books two and three introduce a further nine words each, leading to sentences such as "We play on the computer and learn to read." Finally, books four and five introduce 18 words each, bringing the total to 63 words. Sentence structure becomes increasingly complex, for example "I said: dad I can read a book. There are lots of new words in the book and I can read them all."

12 packages make up the series and these are to be released over the next year. Between them they cover

the four main linguistic skills of reading, spelling, writing and reasoning, and each skill is dealt with on three different levels. It should be emphasised that each package may be used on its own or in conjunction with others. Parents should also be aware that these packages are not a replacement for parental involvement in the development of reading skills. As one would naturally expect, children need help, encouragement and supervision throughout the program.

An educational software package produced for primary school children may seem overpriced at £29.99, but *Prof Plays a New Game* is a substantial, well-designed product that truly warrants this price-tag. It's an excellent package that encourages reading skills in a novel way. Prisma have evidently spent a great deal of time and effort researching and developing the package and I would strongly recommend it to anyone seeking to improve the reading skills of any child aged between four and eight. **stf**

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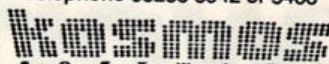
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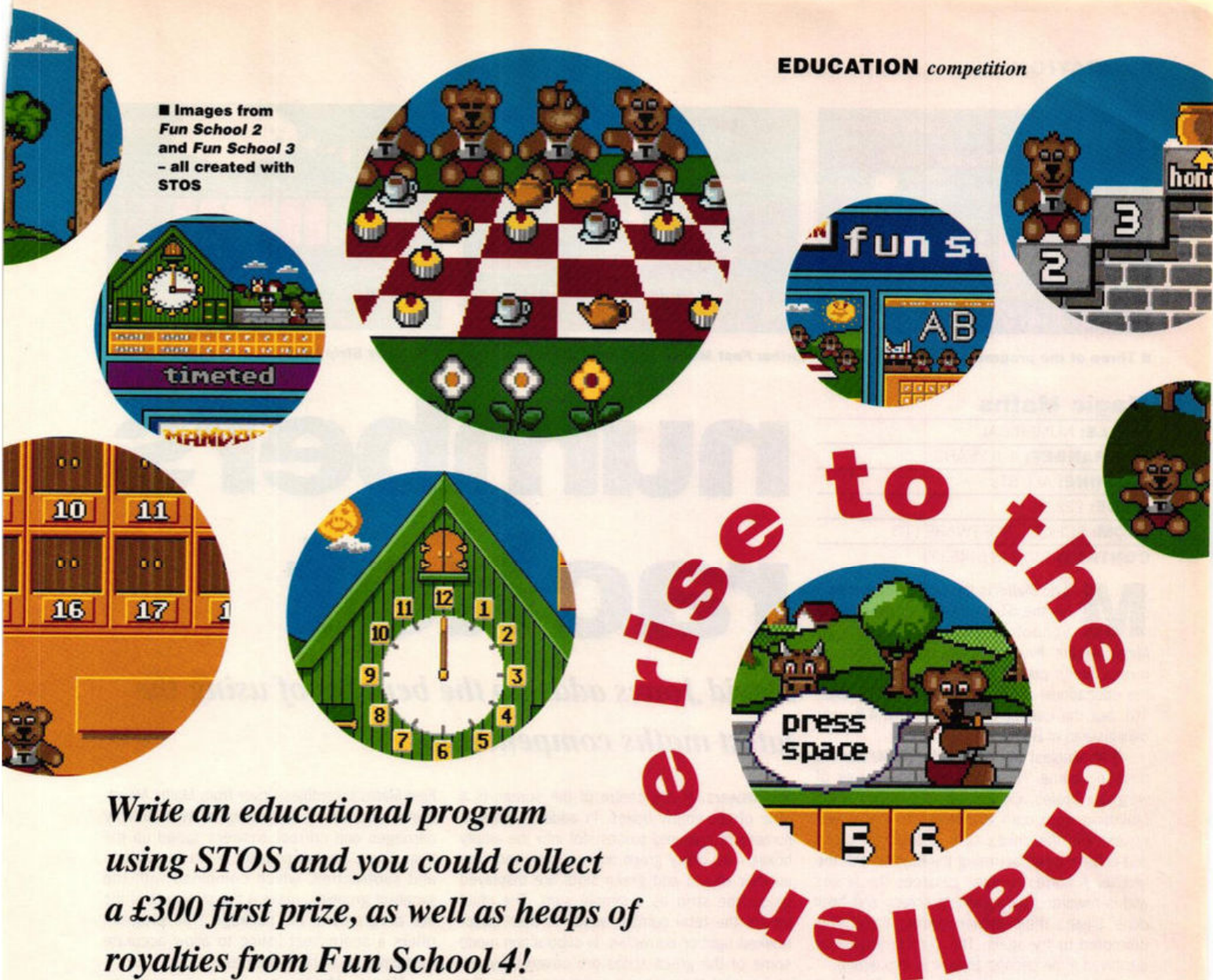
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Fun School 2 and 3 were written with the highly successful STOS Basic. With Fun School 4 already at the planning stage, we're asking you rise to the challenge of educational software programming. We're giving you the opportunity to write a program to be included in a what looks certain to be a top-selling educational package.

It seems strange that a programming language developed to enhance quality arcade games has found such great success in the educational software market, but you only need to spend a few hours with STOS to realise that it's a powerful language that comes with a large number of utilities, many ideally suited to edsoft programming.

STOS is already widely used in the ST educational field: the 42 programs which make up Fun Schools 2 and 3 were all written in this language. Other packages produced in STOS include the Let's Spell series (reviewed in ST FORMAT issue 6) by Children's Learning Software, LCL's Maths programs and Prisma's Play and Learn series (reviewed on page 135).

We challenge you to produce an original piece of edsoft written in STOS. The program should fall into one particular age group; either under 5s, 5-7s, or over 7s. Most importantly, it must be original. Don't worry too much about producing amazing graphics or sound, we're

much more interested in your ideas.

The best program (or programs) will appear in Fun School 4 and receive the usual royalty payments. There will also be an advance payment for the winner of £300! Runners-up will be considered for inclusion on the ST FORMAT Cover Disk and paid if their contribution is used.

There's no limit to the number of programs you can submit. Programs should be sent on disk and should run within STOS (ie as .BAS

files, not .PRG files). Please note that STOS has recently been updated to run on the STE. So if you have an old version of STOS and intend to enter the competition, contact Mandarin Software for an update because all entries must be STE compatible.

Initial judging will be carried out by ST FORMAT, but the finalists' entries will be forwarded to Database. The finalists will be announced in December's ST FORMAT and the winner(s) a month later. **stf**

■ STOS (£29.95) Mandarin Software ☎ 0625 859333. The STOS PD Library sells titles at £2.50 and can be contacted at 78 Merton Road, Highfield, Wigan WN3 6AT. ☎ 0942 217044.

FUN SCHOOL 3

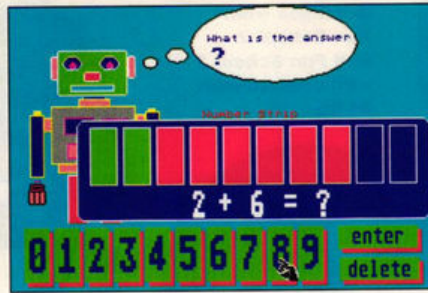
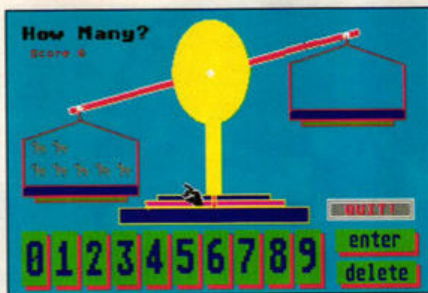
Database Educational Software are about to release Fun School 3, a companion to their highly successful Fun School 2. Indeed they claim to have sold over 120,000 units of Fun School 2 in the UK alone, making it the first educational package to enter the bestsellers list.

Fun School 3 consists of three programs. The age ranges and objectives of the New Curriculum have been taken into account, so the material covered reflects issues currently being addressed in classrooms. Although these packages are designed for home use, teachers should not be discouraged from considering them for use in schools.

Fun School 3 is available soon from Database Educational Software ☎ 0625 878888.

RULES

1. Entries should be addressed to Education Competition, ST FORMAT, 30 Monmouth St, Bath BA1 2AP and received by 31st August 1990.
2. Include your name and address, a daytime telephone number, the age group your program is aimed at, a summary of the aims of your program and the version of STOS used, including a note of any extensions.
3. We cannot return any entries unless they are accompanied by a strong, stamped addressed envelope. Entries are submitted on the understanding that any winning entries selected by Database Educational Software will become the property of that company (subject to normal royalty agreements).



■ Three of the programs included in *Magic Maths*: *Fast Maths* (left) *How Many* (centre) and *Number Strip* (right)

Magic Maths

SKILLS: NUMERICAL

AGE RANGE: 4-8 YEARS

MACHINE: ALL STs

PRICE: £22.95

FROM: SCHOOL SOFTWARE LTD

CONTACT: 010 353 6145399

Magic Maths is the second conversion for the ST by Irish publishing house School Software Ltd. Three of *Magic Maths*' five programs use an identical format to its predecessor, *Maths Mania* (see the educational round-up in *ST FORMAT* issue 10), but the questions are aimed at 4-8 year olds instead of 8-12s.

The simplest program in *Magic Maths* is a counting game. *How Many* displays a pair of weighing scales. On the left is a set of icons (anything from cars to houses to ice cream cones) and the child's task is to count these and enter the number using the keyboard or the mouse. A correct answer balances the scales and is rewarded by a flashing screen and "well done" bleeps. If the answer is wrong the child is prompted to try again. The correct answer is displayed if the second answer is also wrong.

The icons are incredibly small. The most common call for help from children I used this program with was not to assist with counting, but to explain what the icons were. *How Many* has a limited appeal to 3-5 year olds with 20/20 vision.

Once young children master counting, it can still be a quantum leap for them to carry out simple arithmetic. There is often a two year gap between the ability to count up to nine and being able to use the abstract concept that five plus four is nine. Programs such as *Number Strip* may help to reduce this gap.

Number Strip presents the child with a well-drawn robot who sets questions and prompts

numbers racket

David Jones adds up the benefits of using the latest maths compendium

for answers. In the centre of the screen is a strip of ten empty boxes. In addition mode a number of coloured pieces slot into the empty boxes – so many green and so many red. The number of red and green slots are displayed below the strip as a simple sum. The child enters the total number which is then either marked right or corrected. In subtraction mode some of the green strips are covered by red strips and the answer corresponds to the number of remaining green boxes.

The remaining three programs are suited to the top end of the 4-8 age range. *Sums* displays a sum which gradually disappears from the screen before the answer can be entered. It has three levels: Easy ($5+8=?$), Medium ($16+17=?$) and Hard ($22+13=?$).

Weighing Scales involves balancing scales. The questions are given on the left and the answers balance the scales on the right. There are three levels to choose from and the hard level can be very difficult.

Fast Maths resembles *Driver* from *Maths Mania*. Sums appear on the sides of two railway carriages and correct answers speed up the train. There are five possible levels for addition and subtraction, which combined with the excellent graphics, make it the strongest of the five programs in the package. The program offers a scoresheet listing to allow accurate monitoring of a child's progress.

Magic Maths provides a painless introduction to the more testing *Maths Mania*. Although graphics and sound are limited, the program should benefit any child in the 4-8 age group. Recommended. **stf**

GRAPHICS	4
SOUND	2
VALUE FOR MONEY	9
LONG TERM INTEREST	8
EDUCATIONAL VALUE	9
OVERALL	75%

The Three Bears

SKILLS: READING/REASONING

AGE RANGE: 5-10 YEARS

MACHINE: ALL STs

PRICE: £22.95

FROM: SCHOOL SOFTWARE LTD

CONTACT: 010 353 6145399

School Software Limited's only other ST release is an educational adventure game for 5-10 year olds. The packaging claims the aim is "to improve reading skills and develop imaginative thought." Worthy goals, but the program falls short.

The presentation is reminiscent of

an early 80's adventure game. The story is printed on-screen with only a dozen pictures used in the whole program. A wicked witch has abducted Baby Bear and your task is to rescue the furry infant.

This is a genuinely odd program.

My experience in the classroom with *The Three Bears* has shown that it has seriously misunderstood its target audience. Any text adventure could claim to improve reading skills, but this one uses a nursery story which appeals to five year olds



to construct a puzzle that only eight year olds and above will have the urge to solve. A child must think logically to complete the game and the program claims to develop this skill, but in practice it assumes it is already present.

■ A sprinkling of cute fairy tale images does little to improve presentation

GRAPHICS	3
SOUND	3
VALUE FOR MONEY	3
LONG TERM INTEREST	2
EDUCATIONAL VALUE	3
OVERALL	28%



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feedback

Last month's piracy feature brought a record postbag, from complaints that we used a black person to illustrate it, to ideas to prevent piracy and accusations of hypocrisy. Steve Carey hosts a piracy special...

Pirates charter?

In answer to your question: yes, I do give a damn about software piracy. Playing computer games is a very enjoyable pastime and I am very concerned about the quality of games.

But curbing piracy (you will never stop it) by scrambling the programs on a disk or using exotic formats is simply not the way. If you accept the pirates' arguments about the challenge of breaking software protection then obviously the more advanced that protection is, the greater the challenge and the more these pirates will continue. More importantly software protection of this kind works against the interests of legitimate users like myself who shell out up to thirty quid for a piece of software.

It galls me to be presented with two or more single-sided disks which I have to continually shunt in and out of drives (*Weird Dreams*, for one) when I have a perfectly good double-sided disk drive which cost me over a hundred quid (this echoes last month's prize-winning letter about single-sided software).

If the single sided disks were not copy protected I could copy them onto one disk and play them from that, while single-sided users would

also be able to play the game. If I had a hard disk I imagine I would be frothing at the mouth over this.

"But good grief!" you say. "Which software house would want to release unprotected software onto the market?" Well Sublogic did (*Flight Simulator*) and so have Accolade (*The Third Courier*). I can't imagine that major software houses like these would commit commercial suicide, so perhaps releasing unprotected software onto the market is not an instant recipe for bankruptcy.

The answer to piracy is actually very simple: package the software with a thick manual (like *Flight Simulator*) and include some kind of password identification (as in *Elite* or *Starglider 2*) or even better a code generator (as in *Third Courier*).

It is interesting to note that your article gave short shift to this idea, concentrating instead on ways of encrypting the data which is not in the best interests of legitimate users. It is after all in the interests of people like Rod Northen who designs and presumably makes a living from creating encryption systems (as he says "Protection has to be changed, modified and constantly improved" - well, he would,

wouldn't he!), and it is in the interests of software houses as it is cheaper to produce exotic copy protection than put together good packaging. (See *Murder in Venice* or just about Infocom game for a definition of good packaging.)

And if software companies are really losing three times their current market share (wishful thinking, I suspect) then it is worth their while to produce larger manuals and so on. According to your review *MidWinter* comes with a 200 page manual, and I mean it's one thing spending days hacking into a program - but standing at a photocopier feeding in sheets and collating them? At 10p a page? Gimme a break, guys!

The question of registration for bona fide users is also a joke: I have registered for a number of games and utilities and have only ever received promotional literature extolling the virtues of the next release from said company. If software registration actually provided any kind of service then perhaps it too could be used to curb piracy.

To be honest I feel that the article was pretty misleading. It sounded like a five page free advert for the software industry and did not raise any criticisms against the software companies who produce mediocre games and charge extortionate prices. How many vertically scrolling shoot-'em-ups, flight simulators and coin-op conversions can the market support?

Perhaps your readers should be informed about exactly how you make your money. If finances are like other magazines then I suspect that most of your money is raised through advertising bought by the same software companies you defend so fervently. (And while we're on the topic of vested interest: is there really a game released every month which deserves the title *ST FORMAT* Gold?)

There is also a very fundamental question about piracy by "amateurs" which you seem to have avoided: if a piece of pirated software is used by someone who would not otherwise have bought the game, is it really a lost sale?

Despite these criticisms I feel *ST FORMAT* is the best magazine on the market for ST users, and that is why I object when it becomes a propaganda mouthpiece for the software industry which, like any other, is primarily about making the maximum amount of money while giving the minimum possible service to customers. Perhaps if software companies offered better products and packaging they would get more support from users.

Stuart McAra
Muswell Hill, London



BLACK AND WHITE AND READ ALL OVER

Wow, what a nice surprise! I get the June issue in the post and there on the cover is a black guy holding a floppy disk! Yeah! It's about time! Yep, there he is, almost filling up the page, standing there and... um... er... committing a crime...

Michael J. Waters
Chippenham, Wilts

Three things I'd like to say: one, sorry for causing offence; two, if black people are only ever depicted in circumstances where there is no possibility of offence being given they would be represented even less than they are already; and three, the reason why we used Paul Morgan,

an artist on sister magazine *AMIGA FORMAT* (for the Commodore Amiga games machine) was because when we used David Collins' hand on our May issue it looked like he'd died several days before the shoot. And we think you'll agree that Paul's hand looks much better than David's did.

■ Hands up: which mitt do you prefer?



➤ **stf** Whew! There's an awful lot in your letter to try and answer, but I'll do my best.

1) The argument that pirates get a kick out of breaking protection, and that therefore making protection even harder is inviting piracy, is an odd one. No doubt some soccer hooligans get a bigger kick (I scuse the pun) out of getting to matches because of police attempts to stop them, but does that mean the police should stop trying and leave them to it? Or that banks should leave their vaults open, because locking them only encourages people to have a go?

2) The alleged lack of quality in software is irrelevant: just because your local baker serves exceedingly crap cakes you're not justified in nicking them! I do think people should stop complaining about useless games and make sure they buy good stuff. Read our reviews and don't buy anything we slag off. If every ST owner made a point of only buying highly acclaimed, rather than hyped, games, software companies that aren't up to the mark would soon get the point.

3) Yes of course we derive income from advertising. As I've said before, very few if any magazines can survive without advertising: do you fancy the idea of paying £4.95 for ST FORMAT? But if we're in the pocket of the big boys, how come we do slag off games from such companies? (Look at this month's Screentest if you don't believe me.)

4) You dismiss encryption and other techniques of protecting software, complaining that it makes games hard to get on with. For my money, any game that requires intimate knowledge of a 200 page manual is hardly easy-peasy (that doesn't mean such games can't be brilliant, of course). Two other proposed solutions to the piracy problem:

That'll teach 'em...

My solution is to unite virus writers and protection programmers and produce a code whereby, if the protection is cracked, the hidden virus is activated by the change in the code. Bob's your transvestite uncle: the copied disks are then useless. This will teach the hackers and their customers a lesson by passing the virus onto other disks and destroying their own software collection.

Len "Iceman" Simmons
Kingsthorpe, Northampton

stf Not bad, Len, though I suspect opening up a virus war against hackers is asking for trouble.

Or how about...?

How about solving the back-up problem by using an idea from some PCs where the software lets you copy it once – either to a hard disk or as a back up – but after that one "credit" it can no longer be copied?

David Daniels
New Barnet, Herts

stf Neat idea – perhaps PCs are good for something after all!

Oh, those piracy ads!

I'd like to congratulate you on issue 11's excellent feature concerning piracy. It succeeded well in illustrating the sad consequences of what seems to be an

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increasing popular activity among game players and serious users alike. I don't think people realise just how widespread and accepted it has become.

But the current crop of anti-piracy ads really are aimed at the wrong age group. By the time your supposed 10-11 year olds have grown into 15-16 year olds (where the real distribution of pirated games goes on), they'll have a completely different way of perceiving things.

Michael Cross
East Broyle, West Sussex

stf Matter of opinion, of course, but as Domark's Dominic Wheatley argued, if you don't catch 'em young you won't catch 'em at all. Incidentally, if you had trouble getting through to the Federation Against Software Theft (☎ 071 497 8973), please keep trying – or write to FAST, 132 Long Acre, London WC2E 9AH. Remember there's a £1,000 reward on offer!

Getting a little bit pregnant

What a prospect, the ST becoming a dodo because of these crooks! But "Let he who has not sinned cast the first stone." In my collection I have a few pirated compilations. These weren't bought, merely acquired by talking to other users within the locale. I don't know where they originate from.

I am 37 and purchase a considerable amount of software (my wife thinks too much!). I have been dubbed rather impetuous when it comes to software, and regularly buy originals only to find friends have the programs within the next month. This happened recently with *Fighter Bomber*, *Hard Drivin'*, *Battlehawks* and so on. But strange as it may seem, I do like to collect the original items: I purchased *Degas Elite* in spite of having a pirate copy.

I don't lend my original purchases to anyone. Titles like *Cyber Studio* and *Cyber Sculpt* are far too great an investment to give away. Electric Distribution software is not protected, for the benefit of the purchaser, who is requested not to abuse this trust. At the lower end of the scale, the art package *Canvas*, though cheap (£10 from your mail order department) is a superb piece of software written by a young programmer who will not be encouraged to create even better software if his early work is abused.

I am not avoiding the fact that I do have pirated disks, merely trying to say that within the gloomy scene of rampant piracy painted by your article there are conscientious ST users

who don't rely on copies to enjoy their computing and actively try not to add to the disease that is jeopardising our continuing enjoyment of a superb machine.

ANJ Stewart
South Milford, Leeds

stf I appreciate your honesty, but isn't there an old saying that you can't get a little bit pregnant? In other words, if you're not against piracy you're for it. The best way to stop piracy is for all of us to have absolutely nothing to do with it.

Are we hypocritical pillocks?

Well, words fail me really but I will endeavour to put forward my view on your piracy article. What a bunch of hypocritical pillocks you must be at ST FORMAT! Why? Well, you run a four page spread (er, five, actually –ed) about how piracy is affecting the ST and how it will eventually destroy it and other machines.

Yet on pages 64 and 65 there was an advertisement from Third Coast Technologies, in full colour as well, for a gadget from Happy Computers in the USA known as the "Discovery Cartridge." Also on pages 82 and 83 another double page advert from Datel offering the "Synchro Express." And last but by no means least on pages 88 and 89 yet another double page advert from Power Computing regarding the "Blitz Turbo."

Now, as most ST owners are aware, these are all devices for making back-ups of disks (not just PD disks). All three devices can be (and are!) used to copy commercial disks. OK! So what's my point? Well, how do you think these advertisers get the cash to finance these double page colour ads? By selling these gadgets, that's how! Are they not furthering piracy?

And what about you at ST FORMAT, are you not in some way profiting from piracy? The advertisers pay you for the advertising space, do they not? The computer magazine business makes more money from piracy than any other pirate I know. In fact the pirates I know don't do it for money anyway.

So when the computer press stop pretending to be so goodie goodie and stop allowing these adverts (commercial and private ads) then I (and I daresay others) might start taking them seriously. Oh yes, if I win the £25 (as if!) send it to one of the software houses that are struggling to make ends meet (ha ha ha).

Jolly Roger
5 Skull & Crossbones Way
Isbest

PS Four of my mates bought STs because of the availability of free software, is the future of the ST really in jeopardy? I don't think so!

stf Thank you for that considered contribution. I know a little hardware shop not a hundred metres away that sells hammers, axes and saws. And murders are sometimes committed with such implements. Should tell the police that Mr Hardacre is selling murder weapons?

In other words (I'd better spell it out in case you really are as stupid as you sound), the possibility that a perfectly legal device, with perfectly legitimate uses, could be used for illicit purposes – or even the fact that it is – is not a reason to prevent its sale. We can't let people like you prevent the rest of us from going about our legitimate business. **stf**

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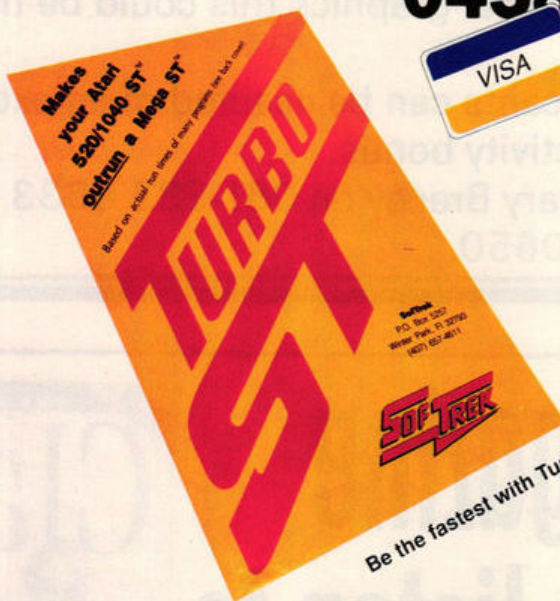
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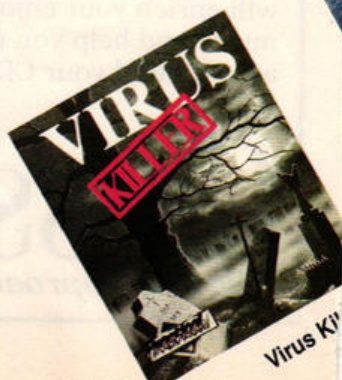
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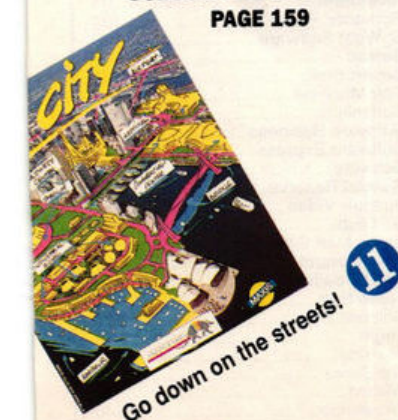
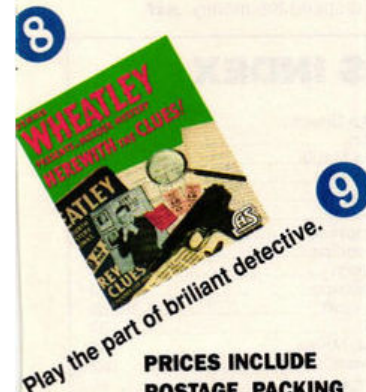
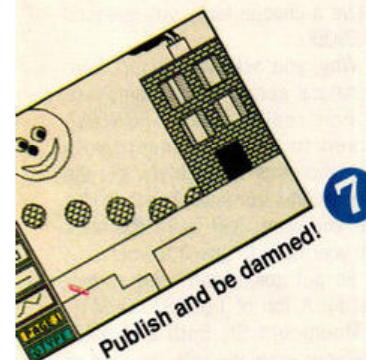


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last word plus

We're rather unpatriotically hoping England don't do too well in the World Cup – or we'll have the devil's own job getting the August issue out in time for Thursday 12th July! Now, all together, "Inger-lernd, Inger-lernd..."

Next month

(Presented by loyal ST FORMAT reader Frankie Howerd)

"Oooh missus no titter ye not oooh I say oooh well I never verily what's in store for you next month in Britain's biggest (oooh no don't be so vulgar missus) and best-selling ST magazine, titter ye not? Well, apart from the enormous (madam please) Cover Disk, with its whacking (oooh whacking madam whacking now do behave please) great collection of fully playable game demos for you to play, and a whole host of PD and reader contributions, there's a massive outbreak of tips (madam I really must insist), the ever-expanding Gamebusters and nigh on 30 pages of the hottest game reviews around oooh.

In addition we unveil a surprise latecomer into the ST DTP stakes. It's only a third of the price, yet it's a serious opponent for Calamus. And that's not all, for we have one or two extra special surprises in store too. Can you afford to miss it (oooh madam nay nay and thrice nay)?

It promises to be a scorcher, a cracker, a pinnacle in the history of magazine journalism (steady on

£25 FREE SOFTWARE!

Psst! How would you like to receive a free copy of the complete version of this month's Cover Disk demo *Starblade*? Or last month's *FORMAT* Gold-rated *Resolution 101*? Or even *F29 Retaliator*? Interested? Turn to page 133 to find out how!

Frankie old chap). I'd reserve your copy today if I were you madam oooh my name's Frankie Howerd missus thankyou good night."

Next month: *FORMAT* subscriber Bobby Robson explains why we didn't do better in the World Cup and advises you on the best word processor for your ST.

£500 must be won!

When we asked you recently what you thought of *ST FORMAT* we were more than a little surprised at the overwhelming demand for more tips and information. It seems thousands and thousands of you feel you could get even more from your STs if only you had more information. And that's where this £500 draw malarky comes in. There's no catch, we really are going to hand someone a cheque for £500, though unfortunately we aren't eligible for it ourselves, dammit.

All you have to do to enter is

send us any tips you can think of. They could be help on getting printers to print better, word processors to work faster, advice or shortcuts for music or graphics software, infinite lives tips or tactical help for games – in short, anything at all that could possibly be of assistance to fellow ST owners.

Then, at the end of September, we shall be tipping all your entries (and you can send in as many separate items as you wish) into a

great big pile and pulling out the name of one lucky winner who will receive a cheque for – you guessed it – £500!

Why, you ask? Well, apart from our natural generosity, it's simply so we can really get *ST FORMAT* packed to the very covers with information that will help you get the absolute max from your machine. It's what you want, and we're the ones (with your help) to give it to you!

So get going, and send in your tip(s) to: A Ton of Tips, *ST FORMAT*, 30 Monmouth St, Bath BA1 2AP. Mark your envelope with the kind of tip you're sending (serious/games/printer/music/graphics or whatever), and, if you wish, tell us how you'd spend the money. **stf**

ADVERTISERS INDEX

A+M Discs.....	114	Media Direct.....	108
Activision.....	IBC, 11, 37, 54, 66	Merlin.....	24
Adamsoft.....	130	Micro Magic.....	82
Advantage.....	84	Micro Text.....	100
Advent.....	130	Microdeal.....	83
Ampower.....	140	Micronet.....	20
Anco.....	45	Microprose.....	IFC, 3, 48
Astrocalc.....	110	Microsnips.....	89
Audio Genic.....	32	Miditech.....	91
B Soft.....	110	Mindscape.....	23
B-Bytes.....	134	Mirrorsoft.....	38-39, 59
BCS.....	124	MJC.....	104
BEM.....	82	Music Matrix.....	82
Best Prices.....	81	Network.....	132
Byte Back.....	98	Novogen.....	68
Cambridge Business Supplies.....	100	Ocean.....	OBC, 40, 51, 143
Challenge.....	74	OMD.....	6
Database.....	89	Palace.....	46, 57
Database.....	91	Pandaal.....	120
Datel.....	118-119	PD PDomain.....	97
Demo City.....	130	PDQ.....	74
Demo Club.....	136	Perrymere.....	114
Digicom.....	26	Power.....	14
Disk-X-Press.....	23	Power.....	15
Dowling.....	117	Radio Computing.....	84
Dukes.....	140	Ramara House.....	128
Ealing.....	74	Riverdene.....	94
Elmsoft.....	126	Romantic Robot.....	124
Entertainments International.....	61	S. West Software.....	120
Evesham.....	106	Senlac.....	139
Evesham.....	107	Seven Disk.....	92
First Choice.....	134	Soft Machine.....	136
Gasteiner.....	86	Softsellers.....	115, 130
Guiding Light.....	140	Software Business.....	18
Gun Fire.....	134	Software Express.....	113
HAL.....	136	Softwise.....	110
Hi-Soft.....	77	Special Reserve.....	63
Home Based.....	94	Spectre Video.....	31
Impac.....	139	ST Club.....	120
Kadsoft.....	100	Stone Mail S/W.....	91
Kosmos.....	136	Take Control.....	81
Ladbroke.....	100	Third Coast.....	64-65
Lapd.....	124	Turbo Soft.....	129
Linell.....	71	Unicorn.....	126
M.T. Software.....	94	Virgin.....	29
Mail Centa.....	122	Waxride.....	139
Manor Court.....	110	We Serve.....	114
Matrix Hire.....	134	Wizard.....	94
MD Office.....	93	Worldwide.....	140

CORRECTION

In last month's introductions to comms we mentioned the Micromola Bulletin Board which was being run by Tom Goodfellow. We're sad to say that Tom has died of cancer.

We're sorry that we were unaware of this fact when we compiled the list, and would like to offer our apologies to Tom's widow Lorraine and to the current Micromola sysop Roy Florentine, who was asked by Tom to take over the board.

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